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(56) Documents cited
GB A 2103002 **GB 1355041** **GB 0591134**
GB 1418891 **GB 0622434** **GB 0227927**

(58) Field of search
G5C
B7H
G2J

(54) **A device to display information by reflection in the windscreen of a motor vehicle**

(57) A driver of a motor vehicle wishing to see displayed in the windscreen information required to decide which route to take fixes at the base of the windscreen:—

a storage box with lid and transparent cover in which opaque or transparent sheets are placed on the lid in mirrored fashion to be seen by reflection in the windscreen (Fig. 2),

a flat base with two reels under for moving long sheets of opaque or transparent sheets across the base to be reflected in the windscreen (Figs. 2 and 3),

a book of opaque or transparent sheets bound together so that any particular sheet can be opened and displayed to be seen in the windscreen (Fig. 4),

a light source with automatically adjusted intensity shielded to illuminate the sheets of information displayed without causing glare,

a computer monitor to lay on the dashboard to display a program in mirrored fashion of any page of a road atlas with the screen luminosity automatically adjusted to obviate glare.

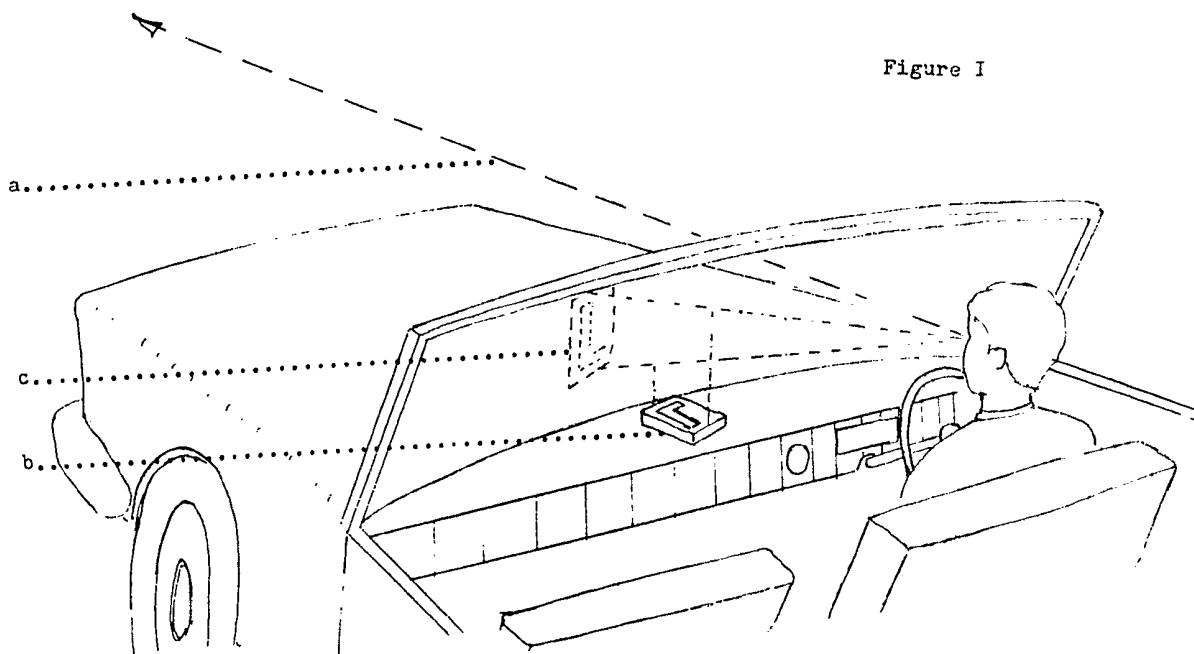
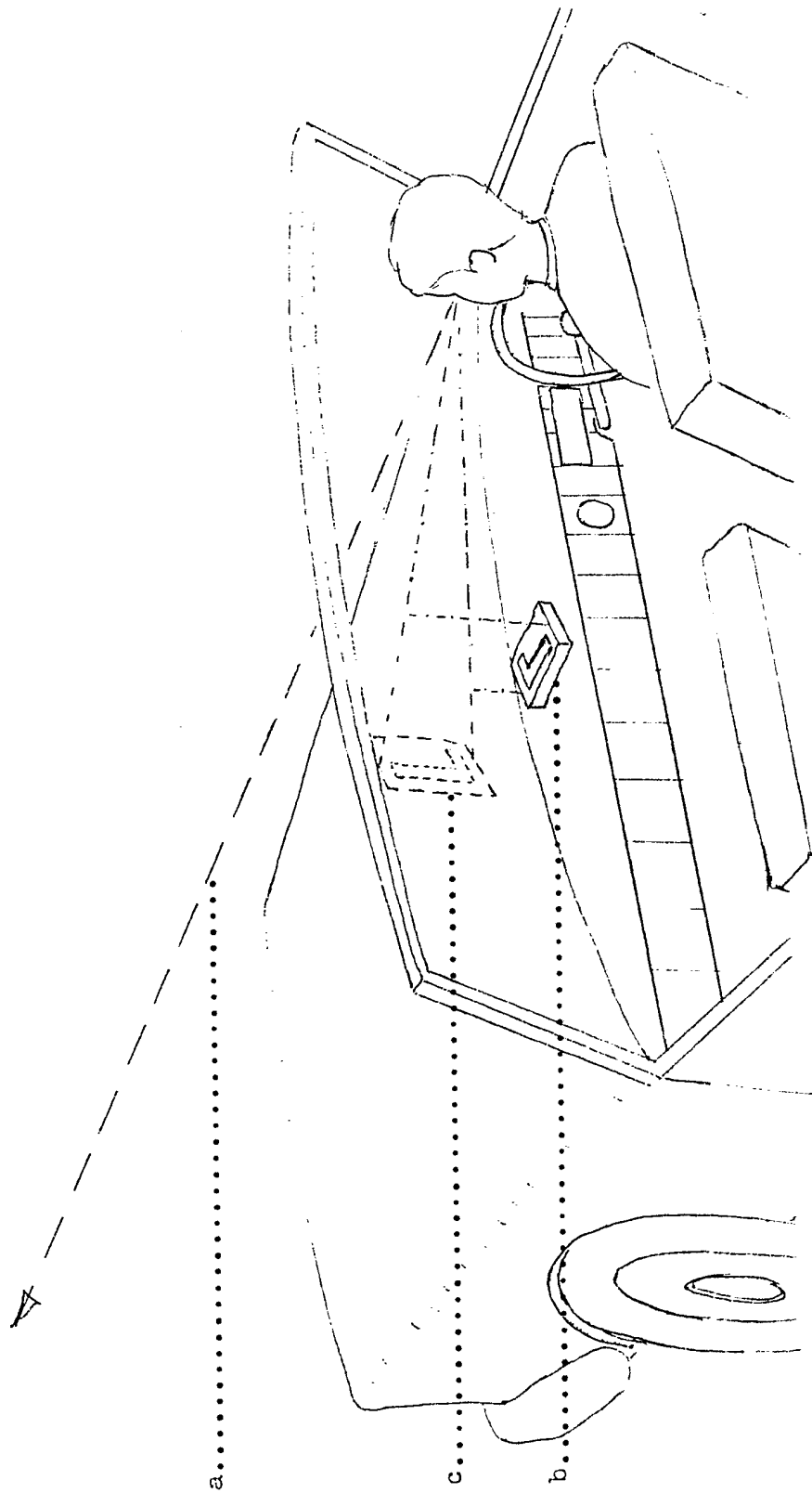


Figure I

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Figure I



II

Figure 2

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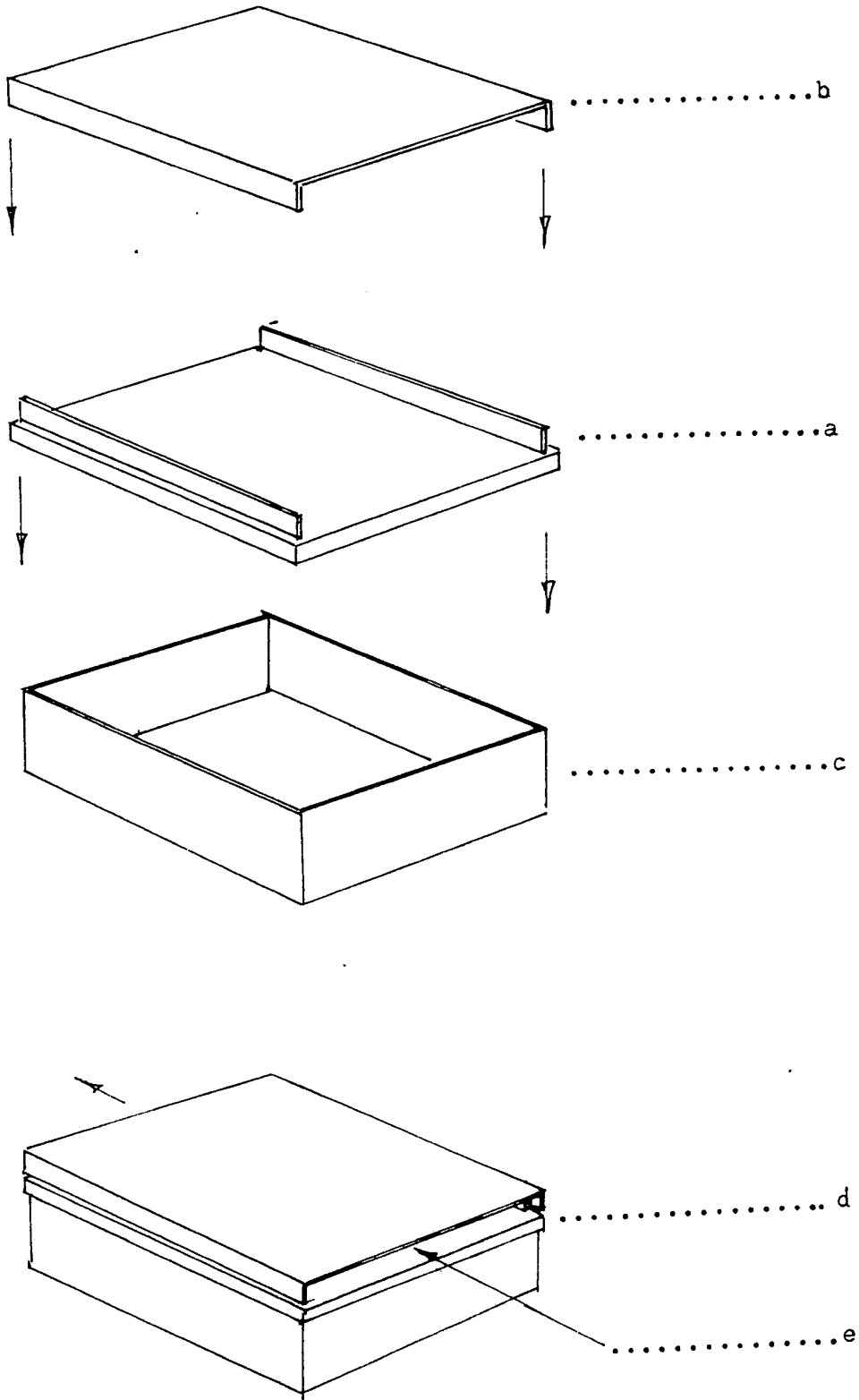
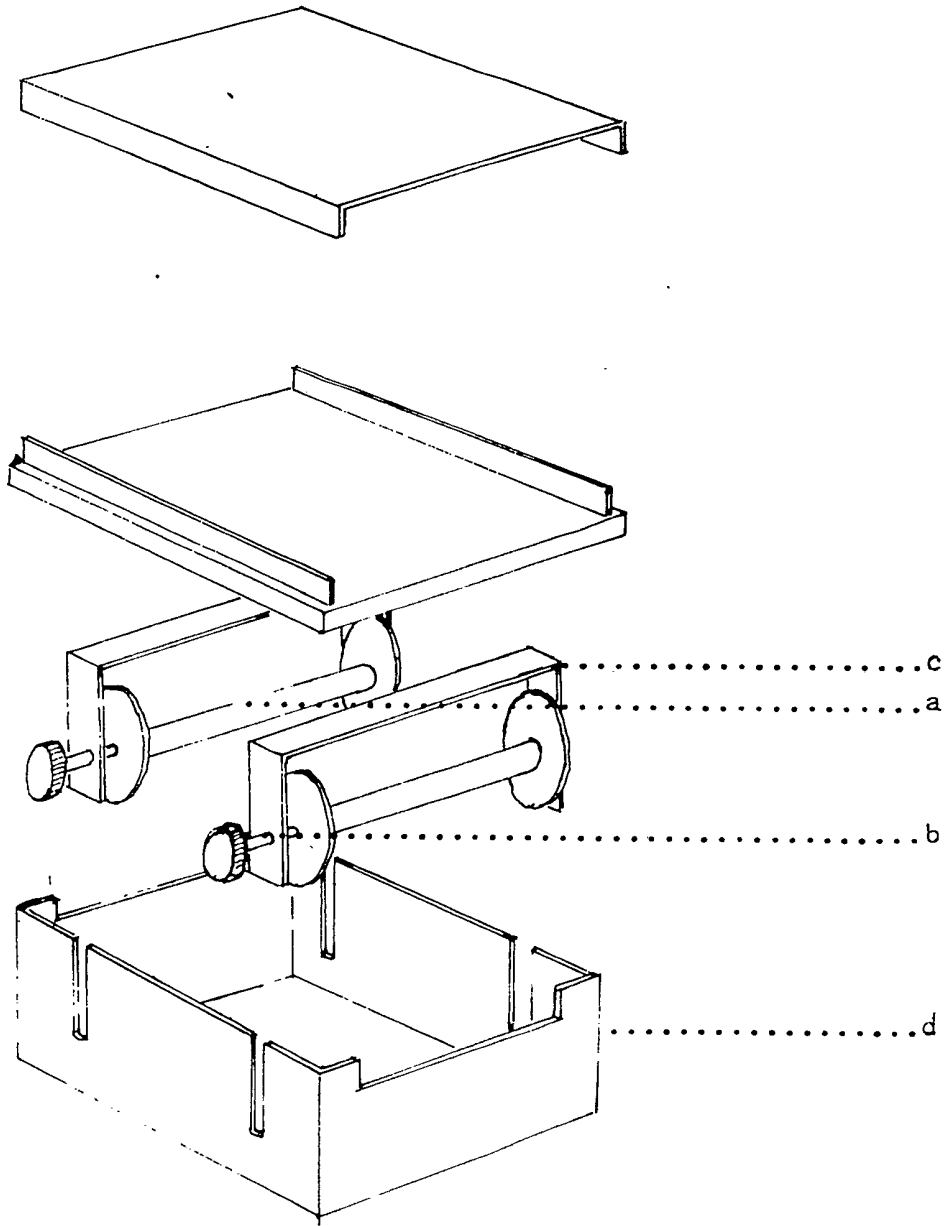
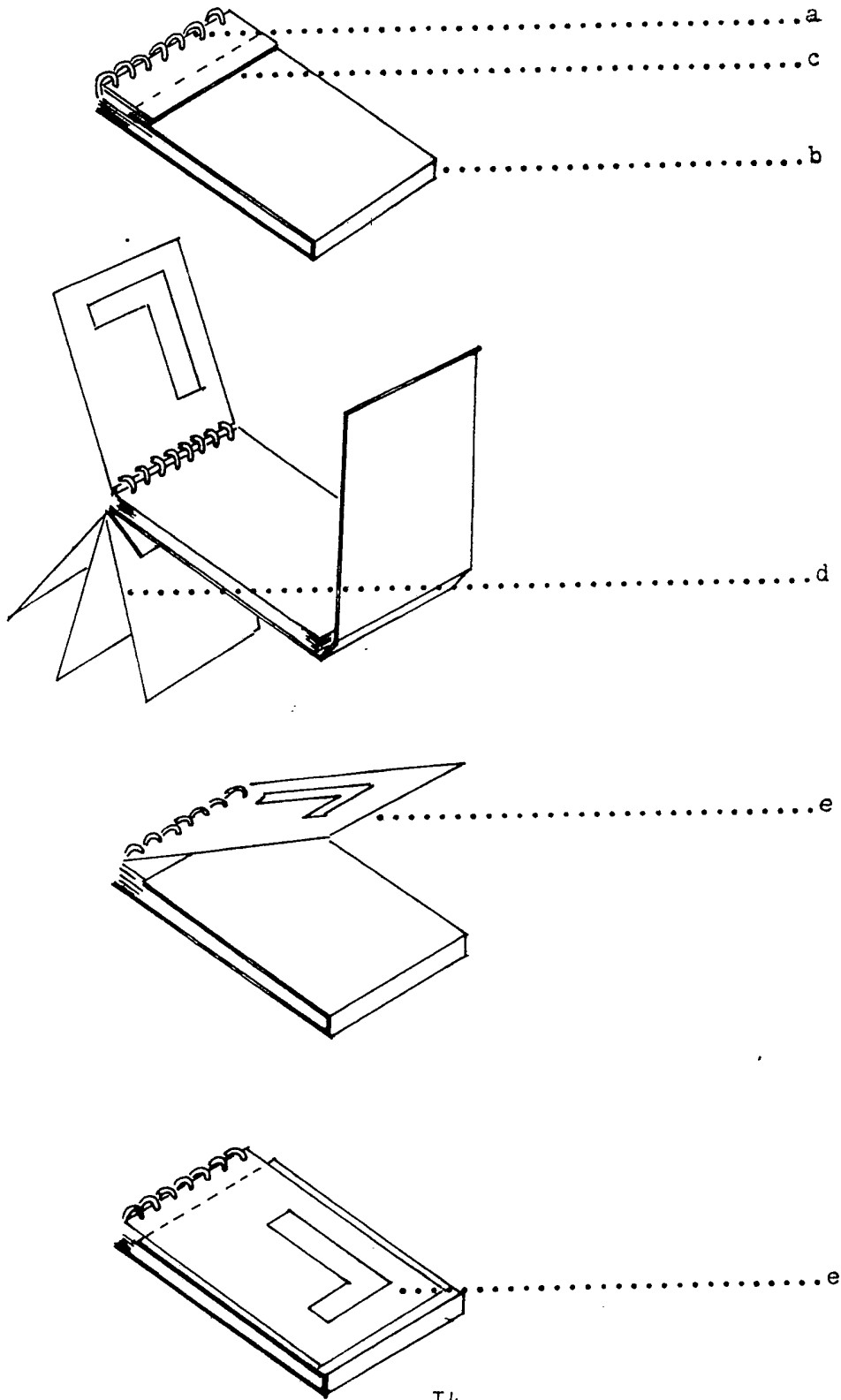


Figure 3

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SPECIFICATION

A device to display information by reflection in the windscreen of a motor vehicle

- 5 1. A major cause of road accidents is that a driver diverts his/hers eyes from the road ahead in order to refer to a map or notes in order to decide in which direction to drive.
- 10 2. This often happens at road junctions and in town centers when the driver has made preparations for the journey, such as route maps and lists of towns, road numbers and notes and comes to a junction where it is
- 15 necessary to refer to the above in order to make the correct manoeuvre.
3. If the route maps, lists of towns, road numbers and notes (referred to below as 'information') are within reach and there is no
- 20 passenger to navigate, the driver may divert his/her attention from the road ahead in order to glance at this information and is then not in control of the motor vehicle.
4. Equally the driver may make a guess as
- 25 to which turn to make and pull up when possible to refer to the information and may cause an accident through worry or sudden manoeuvre.
5. The use of this invention will allow the
- 30 driver to select the information likely to be needed at busy road intersections and be able to refer to this information continually whilst looking through the windscreen.
6. This invention covers the display of
- 35 information in a mirrored fashion horizontally on the dashboard of a motor vehicle at the base of the windscreen in order that the driver may read the information reflected in the windscreen.
- 40 7. This invention also covers the means by which the information is displayed being:-
- a. opaque sheets on which the information is written, drawn or printed in mirrored fashion or
- 45 b. transparent sheets on which the information is written, drawn or printed normally and the sheet is turned over on an opaque background or
- c. a flat screen computer monitor connected to a computer adapted to display in
- 50 mirrored fashion a graphics program derived from a road atlas and town center details to suit the driver.
- d. a device to display single sheets as described at a. and b. above with storage facilities
- 55 e. a device to display sheets as described at a. and b. above bound together as books
- f. a device to display long sheets as described at a. and b. above with facilities for
- 60 running from reel to reel
8. This invention also covers the means by which the information displayed can be temporarily obliterated or artificially lit so that
- 65 the reflected image can be read in adverse lighting conditions.
9. Although reflections in a motor vehicle windscreen would normally distract the driver's attention, the reflection from this invention would not be distracting since it has a
- 70 use to the driver and its source is known.
10. The reflection from this invention would normally be to one side of the driver's vision forward but if necessary the driver
- 75 could see the road ahead through the reflected image without difficulty.
11. Because the reflected image is on the windscreen for as long as the driver may require, the driver can refer to the information
- 80 in a number of extremely brief glances and take in as much of the information needed without diverting his/her attention from the road ahead.
12. Thus this invention will materially reduce the numbers of road accidents annually.
- 85 13. The accompanying drawings on pages 9 to 12 illustrate this invention as described above and as follows:-
- Figure 1* illustrates a motor vehicle with at
- 90 a. the driver's line of vision ahead
- b. the information being displayed as described at paragraph 7 above
- c. the corrected image reflected in the windscreen of the information displayed
- 95 *Figure 2* illustrates a device to display information as described at paragraphs 7d and 7f with at
- a. the base on which single sheets or long sheets containing information to be displayed
- 100 are placed and to form lid of storage box (c)
- b. a transparent cover to clip over the above base if required to hold down the sheet on the base
- c. a storage box to hold sheets not being
- 105 used with adhesive pads on underside to grip the dashboard on which it is placed
- d. the above components fitted together
- e. the direction in which long sheets can be moved across the base.
- 110 *Figure 3* illustrates the assembly for adding reels to underside of the base (Fig. 2.a.) before fixing the storage box (Fig. 2.c.) to the base with at
- a. two reels for the ends of the long information sheet having grooves to assist in winding
- 115 on the sheet
- b. two spindles to pass through the reels with a winding wheel at one end
- c. the subframe to be clipped to the underside of the base to receive the reels
- 120 d. showing the storage box modified to fit over the frame above with four deep grooves for the spindles and two shallow grooves for the information sheet
- 125 *Figure 4* illustrates the information sheets bound together with at
- a. wire binding
- b. long semi-rigid cover with two creases as the back cover and a flap to return over the
- 130 front of pages (the front flap will form the

background to transparent information sheet pages and therefore is recommended to be white)

- c. short front flap (optional)
- 5 d. information sheet pages—either opaque preprinted mirror fashion or transparent. Transparent sheets may be preprinted or left blank for the user to mark with a felt tipped pen
- e. a selected sheet (transparent) having
- 10 been flipped over to the back of the book has been marked and then is returned to the front and laid on the long cover flap thus displaying the marking in mirror fashion
- Note—a shallow tray should be temporarily
- 15 attached to the motor vehicle's dashboard so the above book can be placed in position when required

SUMMARY

- 20 1. A device by which a driver of a motor vehicle can see reflected in the windscreen information required for determining in which direction to drive.
- 2. All as stated at 1. above and where
- 25 opaque sheets pre-printed in mirror fashion are placed horizontally at the base of the windscreen.
- 3. All as stated at 1. above and where
- 30 transparent sheets marked by the user or pre-printed are turned over and placed against an opaque backing horizontally at the base of the windscreen.
- 4. An assembly consisting of a storage
- 35 box having a lid with two raised edges and a transparent cover to fit over the raised edges of the lid fixed horizontally at the base of the windscreen wherein single sheets as described
- 40 at 2. and 3. above are placed on the lid and held down by the cover to effect paragraph 1.
- 5. An assembly consisting of a flat base
- 45 with two raised edges on top and a subframe under containing two reels with grooves to receive ends of long sheets, a box cover to fit over the raised edges of the lid wherein long
- 50 sheets as described at 2. and 3. above are moved from reel to reel across the flat base to effect paragraph 1.
- 6. A book containing a number of sheets
- 55 as described at 2. and 3. above are bound together with wire together with a semi rigid long back cover double creased and turned up to cover the front of the book where the book is placed on the motor vehicle's dashboard
- 60 opened to display information on a particular sheet and with the long cover providing the background for transparent sheets.
- 7. A shielded light to illuminate the infor-
- 65 mation sheets as described at 2. and 3. above with a dimmer switch to be activated by the driver or automatically through a circuit containing two light meters measuring the intensity of the light falling on the information sheet and the light coming from the road

1. above is not too bright.

- 8. A computer setup consisting of a com-
puter, a program storage facility capable of
loading a complete road atlas and town center
70 diagrams, a program allowing any particular road or town to be displayed in mirror fashion and a flat screen monitor fixed to the motor vehicle's dashboard so that the display can be seen by the driver as described at 1. above
- 75 together with a facility to adjust the brightness of the display as described at 7. above

CLAIMS

- 1. A device by which a driver of a motor
- 80 vehicle can see reflected in the windscreen information required for determining in which direction to drive.
- 2. All as claimed in Claim 1. and where
- 85 opaque sheets pre-printed in mirror fashion are placed horizontally at the base of the windscreen.
- 3. All as claimed in Claim 1. and where
- 90 transparent sheets marked by the user or pre-printed are turned over and placed against an opaque backing horizontally at the base of the windscreen.
- 4. An assembly consisting of a storage
- 95 box having a lid with two raised edges and a transparent cover to fit over the raised edges of the lid fixed horizontally at the base of the windscreen wherein single sheets as claimed
- 100 in Claim 2. and Claim 3. are placed on the lid and held down by the cover to effect Claim 1.
- 5. An assembly consisting of a flat base
- 105 with two raised edges on top and a subframe under containing two reels with grooves to receive ends of long sheets, a box cover to fit over the raised edges of the lid wherein long
- 110 sheets as claimed in Claim 2. and Claim 3. are moved from reel to reel across the flat base to effect Claim 1.
- 6. A book containing a number of sheets
- 115 as claimed in Claim 2. and Claim 3. bound together with wire together with a semi rigid long back cover double creased and turned up to cover the front of the book where the book is placed on the motor vehicle's dashboard
- 120 opened to display information on a particular sheet and with the long cover providing the background for transparent sheets.
- 7. A shielded light to illuminate the infor-
- 125 mation sheets claimed at Claim 2. and Claim 3. with a dimmer switch to be activated by the driver or automatically through a circuit containing two light meters measuring the intensity of the light falling on the information sheet and the light coming from the road
- 130 ahead so that the reflected image as claimed in Claim 1. is not too bright.
- 8. A computer setup consisting of a com-
puter, a program storage facility capable of
loading a complete road atlas and town center
diagrams, a program allowing any particular
road or town to be displayed in mirror fashion

and a flat screen monitor fixed to the motor
vehicle's dashboard so that the display can be
seen by the driver as claimed in Claim 1.
together with a facility to adjust the brightness
5 of the display as claimed in Claim 7.

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