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G. SNYDER ET AL

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INSTRUMENT CLUSTER CABINET

Filed Dec. 20, 1937

2 Sheets-Sheet 1

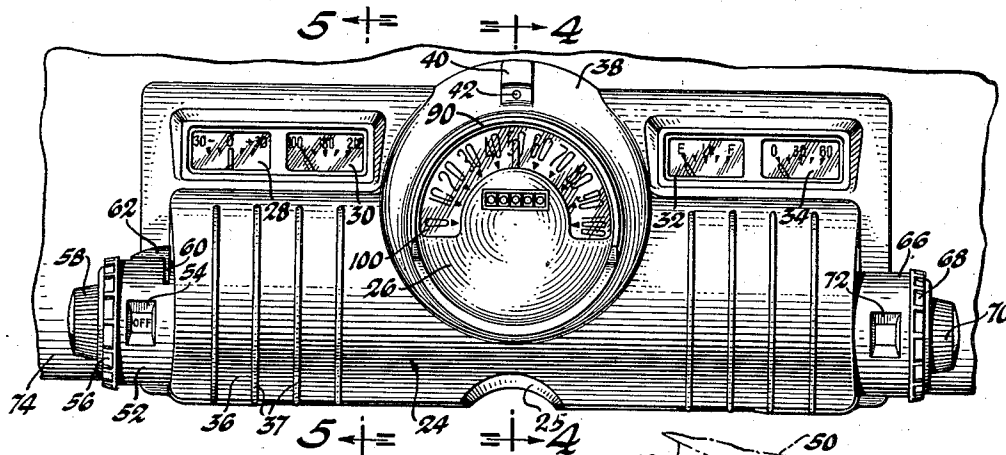


Fig. 1

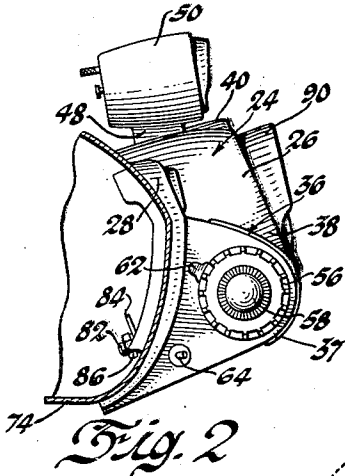


Fig. 2

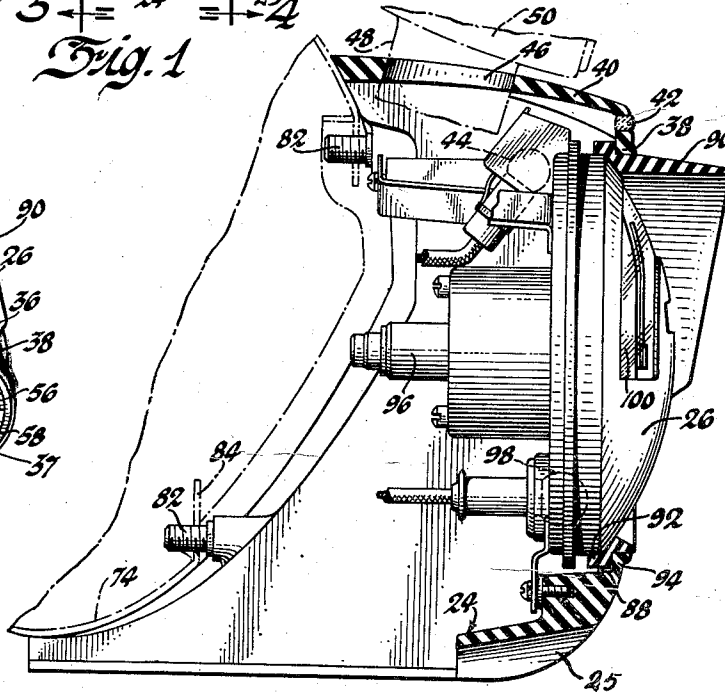


Fig. 4

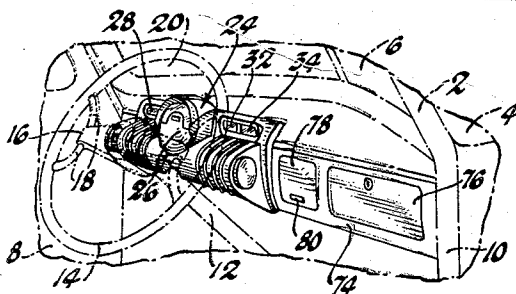


Fig. 3

Inventors
George Snyder &
George S. Lawson
By
Blackman, Spencer & Thiel
Attorneys

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2 Sheets-Sheet 2

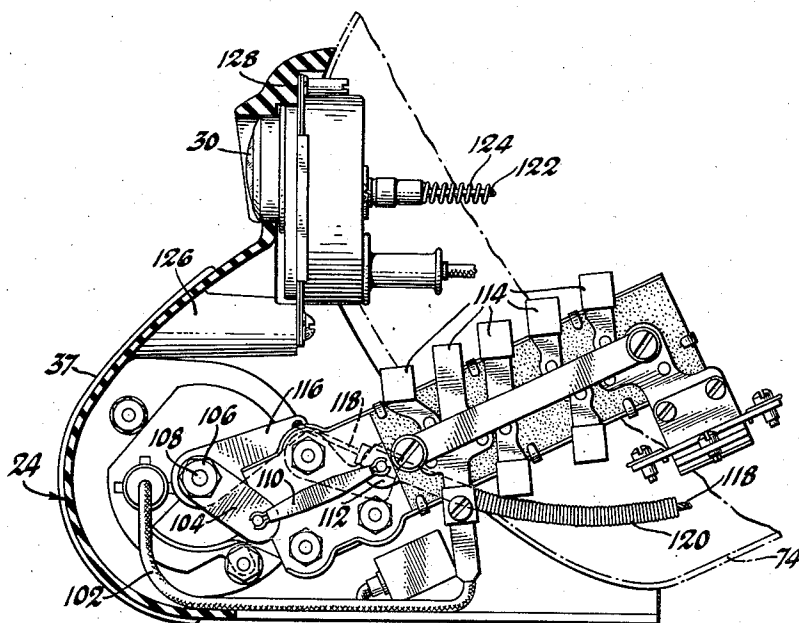


Fig. 5

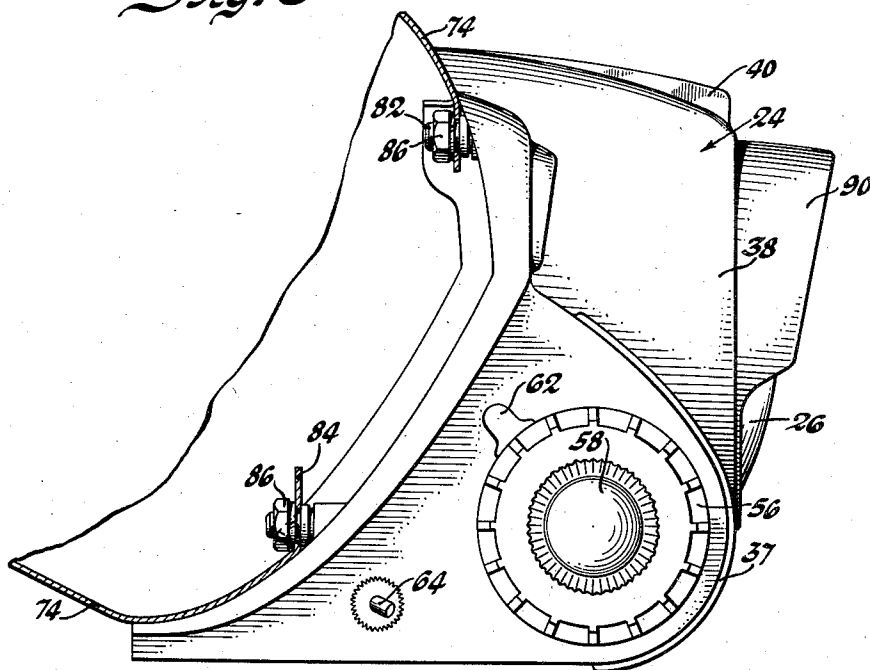


Fig. 6

Inventors
George Snyder &
George S. Lawson
By
Blackman, Spencer & Flint
Attorneys

UNITED STATES PATENT OFFICE

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INSTRUMENT CLUSTER CABINET

George Snyder and George S. Lawson, Detroit, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

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7 Claims. (Cl. 180—90)

This invention relates to instrument panels for use on automotive vehicles and is particularly concerned with improvements in a cluster cabinet which has mounted therein all of the usual instruments which are secured on the instrument board. The cluster cabinet also has a throttle control switch, a light control switch, and a radio control knob mounted laterally thereon.

Another object of the invention is to construct the cluster cabinet so that the instruments therein will be arranged to give the driver a better view thereof. Accordingly, the instruments are placed at an angle of about 25° to the vertical to place the plane of the dials thereof in a more direct line of vision.

The cluster cabinet is also placed immediately in front of the driver and behind the steering wheel so that the instruments are all readily visible without necessitating the driver turning his head to ascertain the reading of one of the instruments.

The cluster cabinet is preferably made of hard rubber or other suitable composition, but may be made of metal. It is mounted over an opening at the left side of the instrument board immediately in front of the driver's position on the front seat. The odometer and speedometer are positioned at the center of the cabinet and project forwardly thereof so that the speedometer is the most readily visible of the instruments. At each side of the speedometer two other instruments are mounted, but they are set back from the plane of the dial of the speedometer.

At one side of the cabinet there is mounted the light switch and throttle control lever and also a small light switch which controls the lighting of the instruments in the cluster cabinet. At the opposite side of the cabinet the radio control knob is positioned.

The cluster cabinet projects so far into the body of the vehicle that it abuts the steering column and a recess in the cluster cabinet is provided to allow for the passage of the mast of the steering column.

On the drawings

Figure 1 is a view looking directly into the instruments of the cluster cabinet.

Figure 2 is a side view of the cluster cabinet showing the angle at which the instruments are mounted.

Figure 3 is a perspective view of the cluster cabinet with the related parts of the automotive vehicle shown in dotted outline.

Figures 4 and 5 are sections on the lines 4—4 and 5—5 of Figure 1.

Figure 6 is an enlarged side view of the structure of Figure 1 looking from the left.

Referring to the drawings, the vehicle is indicated as a whole at 2, and has the cowl 4, windshield 6, front doors 8, front door pillars 10, steering mast or column 12 and the steering wheel 14. The steering wheel 14 has the enlarged transverse arm 16 which is forked at its extremity into the tines 18 which connect the member 16 with the periphery of the wheel. As is best shown in Figure 3, the transverse member 16 of the steering wheel extends transversely of the vehicle to leave the upper half 20 of the steering wheel free of obstruction so that the instruments in the cluster cabinet 24 may readily be seen. The cluster cabinet 24 has a recess or cutout 25 at its lower rear edge, as is shown in Figures 1 and 4, to accommodate the steering column. The instruments in the cluster cabinet are arranged at an angle of substantially 25° to the vertical as is best shown in Figure 2 which is a side view of the cluster cabinet and the instruments. In Figure 1 the cluster cabinet is shown in a purely horizontal or front elevational view in order to give a better view of the dials or faces of the instruments. As the cluster cabinet appears on the vehicle, the top part thereof in Figures 1 and 4 would be tilted backward through an angle of about 25° with the vertical. Compare the position of the parts in Figure 2 which shows their operative position.

The cluster cabinet 24 has the combined odometer and speedometer 26 mounted in an opening at the middle thereof. The face or dial of the speedometer 26 is inclined at the 25° angle and is positioned forwardly a considerable distance ahead of the dials of the instruments 28, 30, 32, and 34, these instruments being the ammeter, temperature indicator, liquid level gage, and oil pressure gage, respectively, and being mounted at openings in the cabinet. In other words, the dials associated with the gages 28—34 inclusive are positioned at the rear of the speedometer 26. The cluster cabinet immediately below the gage represented by the dials 28—34 inclusive is rounded as indicated at 36, and chromium plated strips 37 are added for decorative purposes.

At the top of the central housing 38 of the speedometer there is provided an upwardly projecting part 40 which has a small red window or glass 42 in the front thereof, the glass 42 being illuminated by a bulb 44 to the rear there-

of. This red window 42 is used to indicate when the bright headlights are illuminated.

At the rear of the part 40 an opening 46 is provided and in this opening there is adapted to project the neck 48 which supports an electric clock 50, the face of which is likewise positioned at an angle of substantially 25°. When the clock 50 is not used the opening 46 may be closed by inserting thereover a suitable closure plate.

At the left hand side of the cluster cabinet there is rigidly mounted a cylinder 52 having an opening 54 therein and at the left of the cylinder there is rotatably mounted the head 56 to which the knob 58 is rigidly secured. This knob 58 is used to control the lights or headlamps of the vehicle, and in the position shown in Figure 1 the word "Off" indicates that all the lights are extinguished. As the operator turns the knob 58 and head 56 toward the observer, the subsequent wordings Parking, City, and Country will be visible through the opening 54 to indicate to the operator the extent of illumination of his lighting system.

The cylinder 52 is provided with a slot 60 at its upper part and in the slot 60 there is adapted to operate a lever 62 which controls the throttle of the engine.

Also mounted at the left side of the cluster cabinet 24 is the small switch 64 which controls the lighting of the instruments in the cluster cabinet 24.

At the right hand side of the cluster cabinet a cylinder 66 is rigidly mounted. In appearance this cylinder is substantially the same as the cylinder 52 at the left of the cabinet. Rotatably mounted on the cluster cabinet is the head 68 and the knob 70 used to control the radio of the car. The cylinder 66 has a front opening 72 similar to the opening 54 in the cylinder 52 and through the opening 72 the particular station or the wave length is indicated.

The instrument board itself is indicated in Figures 1 and 3 by the numeral 74. The instrument board is inclined from the top downwardly and forwardly and has the glove compartment 76 at the extreme right, and a smoker's cabinet at the middle, the smoker's cabinet being closed by an upwardly slidable door 78 having a handle 80. The instrument board 74 is provided with an opening at its left hand side and over the opening the cluster cabinet 24 is positioned. The cluster cabinet is provided with threaded studs 82 which project through holes in the edge of the tongue 84 in the instrument panel 74. The cluster cabinet is held in position by means of nuts 86 which are threaded onto the studs 82.

The front of the cluster cabinet 24 where the speedometer is positioned is provided with an opening 88 and in the opening there is received the hood 90 of the speedometer 26. The hood 90 has the annular flange 92 which fits against the edge 94 of the opening at the front of the cluster cabinet.

The speedometer 26 and the other instruments are secured in the cluster cabinet in any suitable way, and the way in which they are secured forms no part of the invention.

The speedometer 26 has the rearwardly extending stud part 96 through which passes the flexible cable which drives the speedometer. An electric bulb 98 is positioned at the lower part of the speedometer and is used to illuminate the dial 100 thereof.

Referring to Figure 5, a wire 102 has its end

passing into the cylinder 52 and illuminates a light to the rear of the opening 54 in order to illuminate the wording "Off," etc., which appears on the dial beneath the opening.

A lever 104 is secured at 106 to the end of a shaft 108 which is operated from the knob 58. The lever 104 is in turn connected by a link 110 to a contact arm or rod 112 which is adapted to move past the contacts 114. Depending upon the position of the contact arm 112 with reference to the contacts 114, the parking lights, headlights, etc., will be given illumination.

A second arm 116 mounted concentrically with the arm 104, but independently operated, is secured to and controlled by a shaft (not shown) secured to the throttle lever 62. The end of the arm 116 is secured to the Bowden wire 118 in the casing 120 and is used to operate the throttle of the engine.

The structure of Figure 5 is mounted inside the cluster cabinet in any suitable way and the particular manner in which it is mounted forms no part of the invention.

The capillary tube for the temperature indicator is indicated at 122, this tube being protected by a spring 124 which surrounds it.

The cluster cabinet has the studs 126 projecting inwardly therefrom and between the studs 126 and the shoulder 128 at the edge of the cluster cabinet the instruments represented by the dials 28-34 inclusive are mounted as is best shown in Figure 5.

We claim:

1. In an instrument board for an automotive vehicle, said board extending substantially the width of the vehicle and being inclined from the top downwardly toward the front of the vehicle, said board being provided with an opening in front of the driver's position, an instrument cluster cabinet secured over the opening, said cabinet projecting away from the instrument board toward the rear of the vehicle, a plurality of instruments mounted in said cabinet, each instrument having its dial in a plane inclined substantially 25° to the vertical.

2. In an instrument board for an automotive vehicle having a steering column said board extending substantially the width of the vehicle, said board having an opening adjacent the steering column, an instrument cluster cabinet secured over the opening and between the steering column and the instrument board, said cabinet having a recess to enable it to fit over the column, a plurality of instruments mounted in said cabinet and facing the seat, each instrument having its dial in a plane inclined substantially 25° to the vertical.

3. In an instrument cluster cabinet for the instrument board of an automotive vehicle having a lighting system, said cluster cabinet being secured to the instrument board and projecting away therefrom into the vehicle toward the rear thereof, a plurality of instruments mounted in the cabinet, said instruments having their dials facing the driver's seat and a lighting switch mounted on and operative from one side face of the cabinet.

4. In an instrument cluster cabinet for the instrument board of an automotive vehicle having a lighting system, said cluster cabinet being secured to the instrument board and projecting away therefrom into the vehicle toward the rear thereof, a plurality of instruments mounted in the cabinet, said instruments having their dials facing the driver's seat, a lighting switch mounted on

and operated from one side face of the cabinet, and a radio control secured to and operated from the other side face.

5 5. In an instrument cluster cabinet for the instrument board of an automotive vehicle having a lighting system and an engine, said cluster cabinet being secured to the instrument board and projecting away therefrom into the vehicle toward the rear thereof, a plurality of instruments 10 mounted in the cabinet, said instruments having their dials facing the driver's seat, and a lighting switch and a throttle control switch mounted on and operated from one side face of the cabinet.

15 6. In an instrument cluster cabinet for the instrument board of an automotive vehicle having a lighting system and an engine, said cluster cabinet being secured to the instrument board and projecting away therefrom into the vehicle 20 toward the rear thereof, a plurality of instruments mounted in the cabinet, said instruments

having their dials facing the driver's seat, a radio control operated from and mounted on one side face of the cabinet, and a plurality of switches mounted on and operable from the other side 5 face of the cabinet, said switches controlling the lighting system of the automotive vehicle and the engine.

7. In an instrument cluster cabinet for the instrument board of an automotive vehicle, said cluster cabinet being secured to the instrument 10 board and projecting away therefrom into the vehicle toward the rear thereof, an instrument mounted at the center of the cabinet, and a plurality of instruments mounted in the cabinet at the side of the central instrument, the faces of 15 the said plurality of instruments being positioned rearwardly of the face of the centrally mounted instrument.

GEORGE SNYDER.

GEORGE S. LAWSON. 20