Aug. 27, 1935. E. M. KLING 2,012,469

CHANGEABLE DISPLAY DEVICE

Filed June 5, 1934

Fig.1.

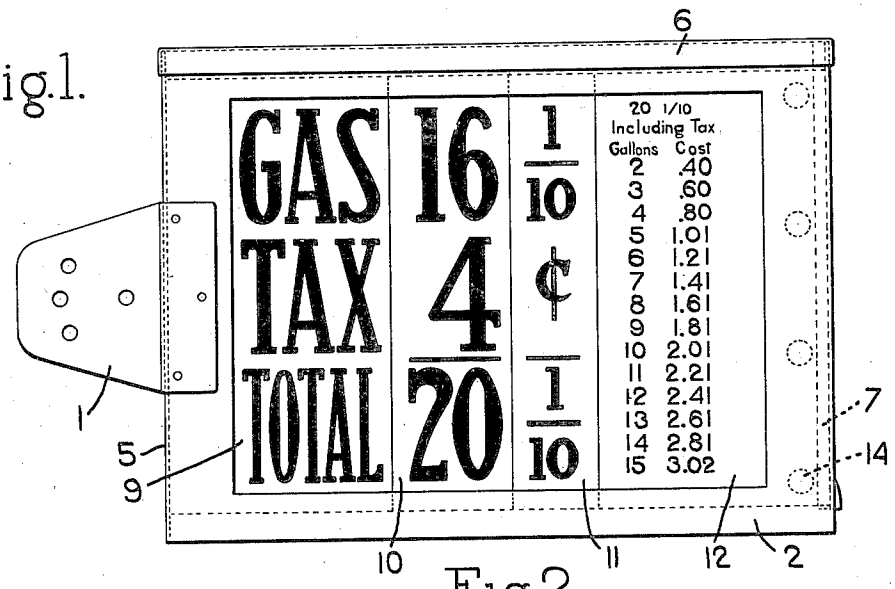


Fig.2.

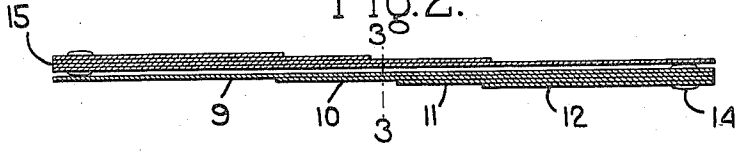


Fig.3.

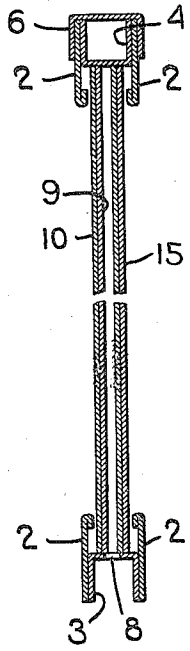


Fig.4.

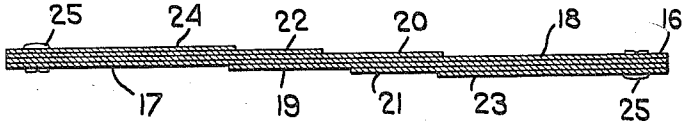


Fig.5.

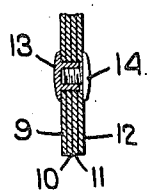
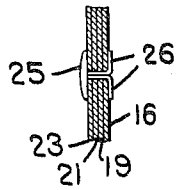


Fig.6.



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CHANGEABLE DISPLAY DEVICE

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2 Claims. (Cl. 40—64)

This invention relates to a device for displaying indicia of that character in which changes have to be made from time to time in the indicia displayed. A leading example of such a display device is the well-known price sign for displaying information with respect to the price of gasoline sold at filling stations. It is essential in such devices that the means employed for indicating the price information shall be of a simple and durable character and capable of being readily and accurately changed by unskilled persons.

The present invention has for its object to provide a simple and efficient construction of such a changeable display device, having a minimum number of changeable elements, readily and easily assembled to conform to any desired change in the indicia displayed and of a strong and durable character.

These and other objects and features of the invention will appear more fully from the accompanying description and drawing and will be particularly pointed out in the claims.

The drawing illustrates two forms of the invention as embodied in a gasoline price sign.

In the drawing:

Fig. 1 is a side elevation of the price sign detached from its mounting.

Fig. 2 is a view in horizontal cross section of two sets of one form of the indicia-carrying plates employed in the device.

Fig. 3 is a vertical central cross section of the frame shown in Fig. 1 with two sets of indicia-carrying plates therein of the construction shown in Fig. 2 and taken on a line corresponding to 3—3 of Fig. 2.

Fig. 4 is a view similar to Fig. 2 of a second form of indicia-carrying plates employed in the device.

Fig. 5 is a detail in cross section through one form of the plate securing devices.

Fig. 6 is a view similar to Fig. 5 of a second form of the plate securing devices.

The display device comprises a suitable rectangular frame with the details of construction of which the present invention is not concerned. The only essential of this frame is that it shall be of suitable, strong, and durable construction, of a size and proportion adapted to receive, support, protect and display the indicia-carrying plates, and that one edge of the frame shall be provided with a removable closure through which the plates may be inserted and removed. In the construction illustrated, this rectangular frame, shown in side elevation in Fig. 1 and in vertical cross section in Fig. 3, is made of sheet metal provided at one vertical edge with a bracket 1 by which it is connected to a suitable support while the opposite vertical edge is the edge provided with the removable closure. This frame is illustrated as having both side walls open and the indicia-carrying plates are arranged so that the indicia are displayed at each side of the frame, this being the usual practice in such display devices as gasoline price signs, but it is obvious that if indicia are to be displayed at but one side of the frame, it will be sufficient for that side wall to be open and for the indicia-carrying plates to be arranged accordingly.

When, as in the case of gasoline price signs, the device is exposed to the weather, if the indicia-carrying plates are of pasteboard or other material which would be injured by rain or other weather conditions, the open side wall or walls of the frame are protected by plates of glass or other suitable transparent material in the usual manner. Such transparent plates are not illustrated because they are well known and familiar in this art and are not required if the indicia-carrying plates are of metal or other waterproof material.

The sheet metal rectangular frame illustrated comprises the two rectangular metal side walls 2 each presenting a rectangular display opening. These side walls are secured together and held properly spaced at the top and bottom by the channel members 3 and 4. The left-hand vertical edge is shown closed by a suitable plate 5 and the top edge is further closed by a cap 6. The right-hand edge of the frame is provided with a suitable removable closure 7.

Especially when the glass or other transparent plates covering the openings in the side walls of the frame are unnecessary, the bottom edge wall of the frame is provided with a series of openings 8 to drain off any water which may enter the frame.

The invention is particularly concerned with the indicia-carrying plates which, when the display is to be made at both sides of the frame, as illustrated, are made and assembled so that the same indicia are displayed at each side of the frame.

Two specific forms of the indicia-carrying feature are illustrated as preferred embodiments of the broad principle of the invention.

In the form shown in Figs. 1, 2, 3, and 5, there is provided a main plate 9 of a size to be inserted into the frame through the open edge and to cover the opening in the side wall. This plate is preferably provided at one end of its face op-

posite the frame wall opening with the indicia which remain unchanged or are very seldom changed, such, for example, as in the case of a gasoline price sign with the words "Gas", "Tax", "Total". A plurality of auxiliary plates are removably mounted on this main plate and so disposed as to present the required indicia opposite the frame wall opening. In this first form of the invention three such plates, 10, 11, and 12 are shown overlapping each other and the main plate and removably secured at the right-hand end of their juxtaposed portions by suitable securing devices. One form of securing device is illustrated in Fig. 5 comprising a stud 13 having a hollow internally threaded shank and a cooperating stud 14 having an externally threaded shank by means of which the main and auxiliary plates may be secured and clamped together. The number of these auxiliary plates depends upon the indicia required to be displayed. In the particular construction illustrated, the exposed portion of the plate 10 carries the integers of the price, that is, in the illustrated case, "16" opposite "Gas", "4" opposite "Tax", and "20" opposite "Total". The exposed portion of the auxiliary plate 11 carries any desired fractional or other indicia such as "$\frac{1}{10}$", "¢", "$\frac{1}{10}$", while the exposed portion of the auxiliary plate 12 carries a tabulation, such, for example, as that illustrated, which shows the cost for any required number of gallons based upon the total displayed cost for a single gallon.

It will thus be seen that when any change is made in the price, the operator removes the set of plates from the frame, disconnects the auxiliary plates from the main plates, and substitutes or changes the set of auxiliary plates to comply with the new condition, secures the plates together and reinserts them in the frame. When, as is usual, the display is made at both sides of the frame, two sets of plates are employed, as illustrated in Fig. 2, and the other set indicated as a whole at 15 is inserted in the reverse direction in the frame.

As further illustrating the scope of the invention, another form of a set of display plates is illustrated in Fig. 4. In this form there is a single main plate 16 common to the two sets of plates having at opposite ends the reversely exposed portions 17 and 18 each carrying the same indicia which are to remain unchanged, such, for example, as "Gas", "Tax", "Total". The required number of auxiliary plates are duplicated in reverse order at opposite sides of the main plate and are secured to the opposite ends of the main plate. Thus the auxiliary plates 19 and 20, 21 and 22, 23 and 24 are in duplicate and each pair carry the same indicia. In the suggested case 19 and 20 would carry indicia similar to 10; 20 and 21 similar to 11; and 23 and 24 similar to 12. The set of overlapping auxiliary plates 19, 21 and 23 are removably secured at the right hand end of their juxtaposed portions to the right hand end of the main plate 16 and the set 20, 22, 24 are similarly secured at the opposite side to the left hand end of the main plate.

Another form of securing device is illustrated in Fig. 2 and in detail in Fig. 6 consisting of an ordinary McGill fastener having a head 25 and bent fastening prongs 26. But in either form of the invention the overlapping plates are provided with registering apertures and either securing device such as shown in Fig. 5 and Fig. 6 or any other suitable form may be employed.

When, as illustrated in Fig. 3, both sides of the frame are open, either two sets of the plates shown in Fig. 2 are employed and inserted in the frame in reverse directions or the combined set illustrated in Fig. 4 is employed.

There is thus presented a very simple and efficient form of device readily adaptable to any desired number and width of changeable plates and one in which the indicia-carrying plates may be made of any suitable material either waterproof, and therefore requiring no glass or other transparent plates in the frame, or non-waterproof and suitable to be used with the usual transparent or glass plates.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is:

1. A changeable display device comprising a rectangular frame having an open side wall spaced from the opposite wall and an open edge provided with a removable closure, a main plate of a size to be inserted into the frame through the open edge and to cover the opening in the side wall and having at one end on its face opposite the frame wall opening an indicia-containing section and at the opposite end a plurality of securing apertures, a plurality of successively shorter auxiliary plates each having at one end an indicia-containing section and at its opposite end a plurality of securing apertures registering with those of the main plate, the said auxiliary plates arranged, when overlapped and superposed on the non-indicia-containing section of the main plate, also to present their indicia opposite the frame wall opening, and securing devices cooperating with the registering apertures of the main and auxiliary plates to secure the said assembled plates into a compact unit readily insertable into and removable from the frame through the open edge thereof.

2. A changeable display device comprising a rectangular frame having spaced apart open side walls and an open edge provided with a removable closure, a main plate of a size to be inserted into the frame through the open edge and to cover the openings in the side walls, having an indicia-containing section at each face but at opposite ends opposite the frame wall opening, and having at each end a plurality of securing apertures, two similar sets of a plurality of successively shorter auxiliary plates each having at one end an indicia-containing section and at its opposite end a plurality of securing apertures registering with those of the main plate, each of said sets arranged when the plates of the set are overlapped and superposed on one of the non-indicia-containing sections of the main plate also to present their indicia opposite the corresponding frame wall opening, and securing devices cooperating with the registering apertures of the main and auxiliary plates to secure the said plates when assembled with one set of auxiliary plates on each face of the main plate into a compact unit readily insertable into and removable from the frame through the open edge thereof.

ELMER M. KLING.