March 10, 1959 S. A. BANKS 2,876,715

SUNSHADE FOR FUEL TANK

Filed Feb. 1, 1957

FIG. 1.

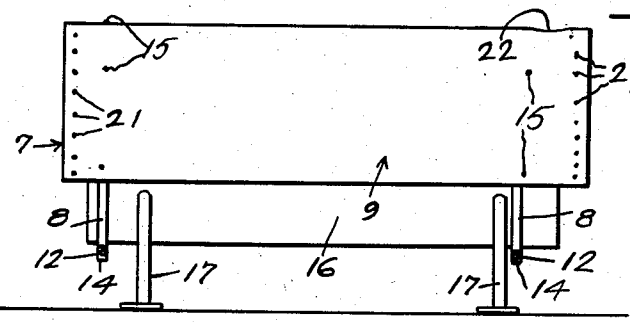


FIG. 5.

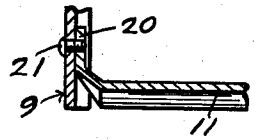


FIG. 3.

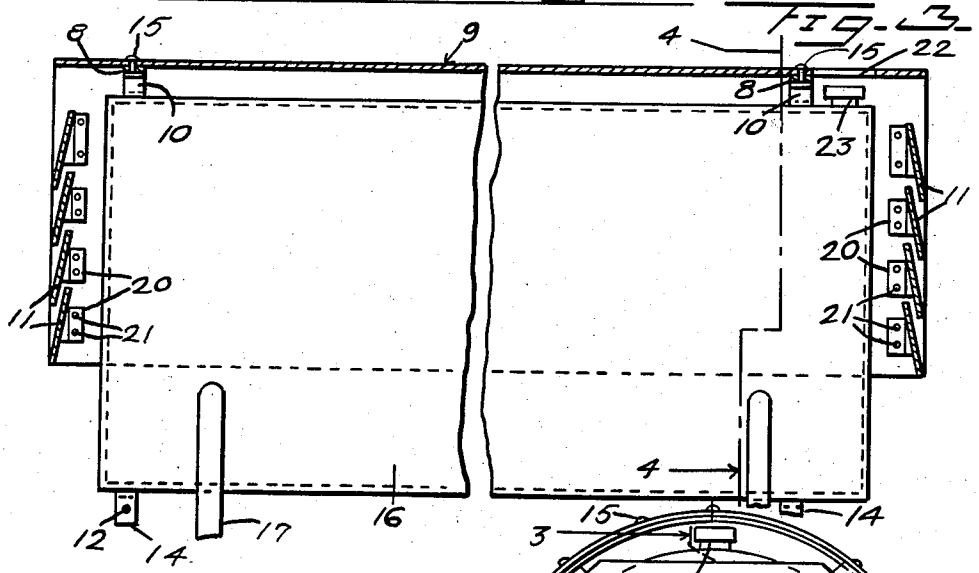


FIG. 4.

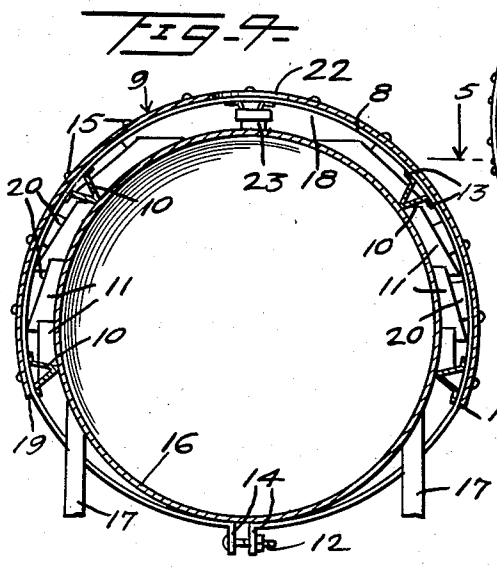
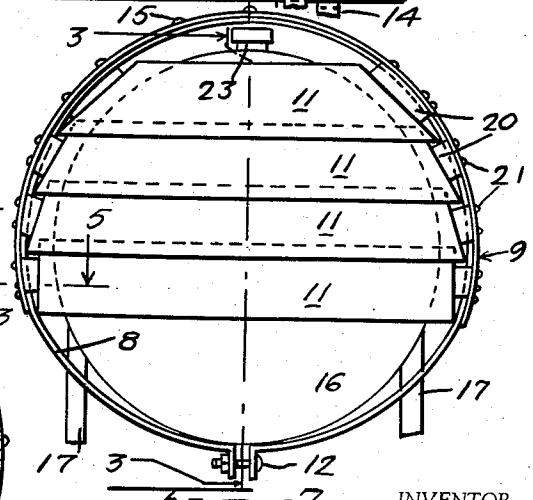


FIG. 2.



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SUNSHADE FOR FUEL TANK

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3 Claims. (Cl. 108—1)

This invention relates to a novel shield for protecting a fuel storage tank from the direct rays of the sun and to thus minimize evaporation and the waste of the liquid fuel resulting therefrom caused by direct rays of the sun striking a liquid fuel storage tank.

More particularly, it is an aim of the present invention to provide a shield of extremely simple construction which may be economically manufactured and sold or which may be readily applied to storage tanks located out of doors and exposed to sun rays.

A further object of the invention is to provide a storage tank shield which will conveniently fit liquid fuel storage tanks of different cross sectional shapes and which may be made in various sizes to accommodate storage tanks of different sizes and capacities.

A further object of the invention is to provide a shield which while primarily adapted for use in connection with domestic fuel storage tanks, is also well adapted for use on larger commercially used storage tanks.

Various other objects and advantages of the invention will hereinafter become more fully apparent from the following description of the drawing, illustrating a presently preferred embodiment thereof, and wherein:

Figure 1 is a side elevational view showing the sunshade applied to a liquid fuel storage tank;

Figure 2 is an end elevational view thereof on an enlarged scale;

Figure 3 is a fragmentary longitudinal sectional view of the sunshade, taken substantially along a plane as indicated by the line 3—3 of Figure 2, and showing the tank in elevation;

Figure 4 is a cross sectional view taken substantially along a plane as indicated by the line 4—4 of Figure 3, and

Figure 5 is an enlarged fragmentary horizontal sectional view taken substantially along a plane as indicated by the line 5—5 of Figure 2.

Referring more specifically to the drawing, the sunshade in its entirety is designated generally 7 and comprises at least two metal strap members 8, a piece of sheet metal 9, a plurality of spacer elements 10, a plurality of louver plates 11 and a nut and bolt fastening 12 for each strap member 8.

A plurality, preferably five, spacer members 10 are secured to each strap member 8. The spacer members 10 of each strap member 8 are all secured to the same side thereof in longitudinally spaced relation to one another. The spacer members 10 are preferably V-shaped, as best seen in Figure 4, and the ends of the legs of each V-shaped spacer element 10 are turned outwardly as seen at 13, and said end portions 13 are disposed against and suitably secured as by welding to the strap member 8. The spacer elements 10 are spaced substantial distances from the outwardly bent apertured terminals 14 of each strap member 8. The opposite sides of the strap members 8 are disposed against one side of the thin sheet metal plate 9 and crosswise thereof and

are secured thereto, preferably by screw fastenings 15, so that the ends of the strap members extend from the side edges of the plate 9 substantially equal distances. The with of the plate 9 is preferably approximately equal to the spacing between the two end spacer elements 10 of each strap member. Said strap members are spaced from the ends of the plate 9.

The plate 9 and strap members 8 are sufficiently resilient so that said parts can be readily flexed. The plate 9 is adapted to be disposed over a fuel storage tank 16 with the strap members 8 disposed on the underside of said plate. The fuel storage tank 16, as is conventional, is supported in a slightly elevated position by depending supporting legs 17. The ends of each strap member 8 are drawn around a portion of the bottom of the tank 16 and are detachably and adjustably connected to one another by one of the nut and bolt fastenings 12. The two strap members 8 are thus secured around the tank 16 for positioning the plate around the upper portion of the tank. The inner ends or apexes of the spacer elements 10 rest against the outer side of the tank 16 for supporting the strap members 8 and the shield forming plate 9 in radially spaced relation to the tank to provide an air space 18 between the tank and shield 9. The shield 9 is held arcuately bowed in cross section by the mounting of the strap members around the tank and the longitudinal side edges 19 of the shield 9 extend to somewhat below the level of the horizontal center of the tank.

As seen in Figures 1 and 3, the shield 9 is of sufficient length so that the end portions thereof project beyond the ends of the tank 16. A plurality of the louver plates 11 are mounted in each end portion of the shield 9 beyond and spaced from the adjacent end of the tank 16. Each louver plate 11 has restricted inwardly bent and twisted ends 20, portions of which are disposed against the inner side of the shield 9 and secured thereto by fastenings 21. The louver plates 11 are inclined downwardly and outwardly and are disposed in spaced apart overlapping relation to one another at each end of the shield 9.

The top portion of the shield 9 is provided with an opening 22 adjacent one end thereof to afford access to the filling neck 23 for refilling the tank 16.

From the foregoing it will be readily apparent that the plate 9 and louver plates 11 of the shade 7 will protect the tank 16, which is mounted out of doors, from direct rays of the sun from above, either side or either end of the tank 16. The plate 9 and louver plates 11 are so spaced with respect to one another and to the tank 16 as to provide the air chamber 18 through which air can circulate freely to prevent a concentration of heat within the sunshade 7. It will thus be readily apparent that the tank 16 will be maintained relatively cool even on a very hot day when the sun is shining directly on the sunshade 7, so that the loss of liquid fuel from the tank 16 by evaporation will be reduced to a minimum, thereby effecting substantial savings in fuel costs to the user. The plate 9 and louver plates 11 are preferably formed of sheet aluminum to reflect and deflect sun rays to a maximum extent.

Due to the flexibility of the strap members 8 and plate 9, it will be readily apparent that the sunshade 7 may be mounted on storage tanks 16 of various cross sectional shapes, requiring only a modification in the size of the louver plates 11 and in the twisting of the end portions 20 thereof. It will also be apparent that the length of the strap members 8 and the length and width of the plate 9 can be varied for use of the shade 7 on tanks of different sizes and capacities.

It will also be readily apparent that the shade 7 may

be readily applied to a liquid fuel storage tank 16 already in use and, due to the simplicity of construction and the manner in which it readily adapts itself to application to a storage tank, may be readily applied by a user.

Various modifications and changes are contemplated and may be resorted to, without departing from the function or scope of the invention as hereinafter defined by the appended claims.

I claim as my invention:

1. A sunshade for liquid fuel storage tanks comprising a plate adapted to be disposed over a storage tank, metal strap members secured to said plate and adapted to engage under the storage tank for positioning the plate around the upper part of the storage tank, and spacing elements, forming a part of the sunshade, disposed between said plate and the tank for retaining the plate in outwardly spaced relation to the portion of the tank around which the plate is disposed to provide an air chamber therebetween, said plate and strap members being formed of flexible sheet metal, said strap members extending around the tank and having intermediate portions secured to the side of the plate facing the tank,

and said spacing elements being secured to and extending inwardly from said strap members.

2. A sunshade as in claim 1, and fastening means detachably and adjustably connected to the end portions of each of the strap members for detachably and adjustably securing the strap members around the tank for clamping the sunshade thereon.

3. A sunshade as in claim 1, said plate in cross section substantially conforming to the cross sectional shape of the upper portion of the tank around which the plate is disposed, said plate having end portions extending beyond the ends of the tank, and louver plates mounted in and secured to the ends of said first mentioned plate and forming shields for the tank ends.

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