This invention relates to an upright rotatable display device, and in particular it relates to a collapsible display device of sheet material which may be mounted on a vertical spindle for rotation by the wind.

Display devices which have a large display area and oppositely disposed vertical wind-catching marginal portions are well known; but insofar as applicants are aware, the device disclosed herein is the first which is made of sheet material, such as paperboard, and has removable spacer and mounting members so that the display devices may be shipped flat and quickly assembled for mounting on a spindle.

The invention is illustrated in the accompanying drawings in which Fig. 1 is a front elevation of a display device embodying the invention; Fig. 2 is an end elevation thereof; Fig. 3 is an enlarged sectional view taken as indicated on the line 3-3 of Fig. 1; Fig. 4 is an enlarged sectional view taken as indicated along the line 4-4 of Fig. 1; Fig. 5 is an enlarged sectional view taken as indicated along the line 5-5 of Fig. 4; Fig. 6 is a section taken as indicated along the line 6-6 of Fig. 5; and Fig. 7 is a perspective view of a combined spacer and mounting member.

Referring to the drawings in greater detail, a base member, indicated generally at 10, has a pair of bottom cross members 11 and 12 which have their outer extremities turned downwardly and outwardly to form foot 13. The base member may be bolted to any suitable horizontal surface, such as a platform or a concrete base.

The space between the feet 13 may be such as to permit the base 10 to be secured to the top of a gasoline pump in a filling station. Secured to the base is a vertical spindle 14 provided with a lower aperture 15 and an upper aperture 16 to receive lower and upper pins 17 and 18, respectively. A collar 19 rests on the pin 17 to provide a bottom bearing surface for a collapsible display device which is indicated generally at 20.

As best seen in Fig. 3 the display device 20 consists of two paperboard body members 21 and 22. The body member 21 has a first crease score line 23 which is parallel to a vertical edge 24 thereof, which defines an attaching margin 25, and a second crease score line 26 parallel to the other vertical edge 27 of the sheet which defines an impeller margin 28. The sheet 22 has a crease score line 29 defining an attaching margin 30 and a crease score line 31 defining an impeller margin 32. The attaching margins 25 and 30 of the body members 21 and 22, respectively, are provided with crease score lines 33 and 34, respectively, so that the body members may be assembled by folding each body member along the last identified score line with the attaching margin of each body member enlocking the impeller margin of the other body member and securing them together in any suitable manner, as with staples 35.

In its assembled state, the display device has display portions 36 and 37, formed by the large central areas of the body members 21 and 22, respectively, and wind-catching impeller portions 38 and 39 which are disposed in parallel relationship to one another and which extend obliquely in opposite directions from the display portions 36 and 37. Since the score lines on the two body members are complementarily disposed, the display device may be packed with the two body members flat against one another.

The display device is kept in its assembled position by means of removable spacer and mounting members, indicated generally at 40. Each of the members 40 is formed of a single piece of wire which has a central closed mounting loop 41 of low diameter to loosely encircle the vertical spindle 14 of the base member 10, and transversely extending spreader arms 42 terminating in open loops 43 and vertical abutment fingers 44. As best seen in Figs. 4 and 6, each of the body members 21 and 22 is provided with apertures having grommets 45 which are arranged in pairs which are aligned along the vertical axes of the sheets when the device is assembled. The spacer members 40 are inserted between the body members 21 and 22 with their eye portions 43 projecting through the grommets 45 to receive retaining pins 46 which overlie the body members adjacent the margins of the apertures, and their vertical abutment fingers 44 abutting the inner surfaces of said body members. As seen in Fig. 4, in a display of moderate size two spacer members 40 are sufficient, but it is obvious that in larger displays additional spacers might be needed. Likewise, in displays of great width it might be necessary to use auxiliary spacers on both sides of the vertical axes.

The assembled display device may be rotatably mounted on the vertical spindle 41 with the mounting loops 41 encircling the spindle, the lower mounting loop 41 resting upon the collar 19. Thus, the mounting loops 41 of the spacer members serve as mounting means, while the spreader portions 42 and eyes 43 serve as spacer means. A second collar 18c is placed on top of the upper mounting loop 41, and the pin 18 is inserted in the aperture 16 to prevent undue vertical movement of the display on its spindle 14.

The foregoing detailed description is given for clearness of understanding and no unnecessary limitation should be understood therefrom as variations will be apparent to those skilled in the art.

We claim:

1. A display device adapted to be mounted on a vertical spindle for rotation by the wind, comprising: two body members of paperboard of propeller diameters co-axially disposed with score lines parallel to their vertical edges which divide each of said body members into a display portion, a narrow impeller margin and a wide attaching margin, the impeller margin of each body member being secured to the attaching margin of the other body member so that said members are disposed with their display portions in parallel spaced relationship and their impeller margins parallel and extending obliquely in opposite directions from said display portions, said body members tending to collapse along their score lines and move toward one another; removable spacer means positioned between said display portions forming the score lines retaining them in spaced relationship; and a plurality of collars secured to the vertical spindle adapted to maintain said spacer means in rotatable alignment along the vertical axis of said display device.

2. The display device of claim 1 in which the spacer means is disposed on the vertical axis of the display device and the mounting means is integral therewith.

3. The display device of claim 2 in which the body members are provided with horizontally aligned apertures arranged in pairs along their vertical axes, and the spacer means includes eye portions extending through said apertures and removable retaining pins extending
through the eye portions and abutting the margins of the apertures.

4. The display device of claim 3 in which the spacer means comprises a plurality of separate wire members each having a central closed loop forming the mounting means and loops at its ends forming the eyes.

5. In a display device having a pair of body members of paperboard which are fastened together at hinge lines along two opposite margins so that they tend to assume unspaced positions, a removable rigid spacer member for retaining the intermediate portion of said body members in spaced relation which has end portions adapted to project through apertures in said body members and eyes in said end portions to receive retaining pins, and abutment fingers which are disposed substantially perpendicular to the plane of said eyes and are between said eyes so that they may lie against the inner faces of said body members.

6. In a display device having a pair of body members of sheet material which are fastened together along two opposite margins, a removable rigid spacer member for retaining the intermediate portion of said body members in spaced relation which has end portions adapted to project through apertures in said member members and eyes in said end portions to receive retaining pins, and a central opening whereby said device may be mounted on a spindle.

7. In a display device having a pair of body members of sheet material which are fastened together along two opposite margins, a removable, rigid, one-piece wire spacer member which has a central closed loop to permit the display device to be mounted on a spindle, spacer portions extending in opposite directions from the loop and in the plane thereof, open hook portions at the ends of said spacer portions adapted to extend through apertures in the body members to form eyes which receive retaining pins, and terminal abutment fingers extending substantially perpendicular to said eyes so as to abut against the inner faces of said body members.

8. A removable rigid spacer adapted to be positioned between complementary apertures in a pair of spaced body members of a rotatable display device, comprising: a spacer body portion for positioning between said body members; end portions adapted to project through said apertures in the body members, said end portions being provided with eyes to receive retaining pins; and abutment fingers which are disposed substantially perpendicular to the plane of said eyes and are between said eyes so that they may lie against the inner faces of said body members.

9. A removable rigid spacer and mounting member adapted to be positioned between complementary apertures in a pair of spaced body members of a rotatable display device so that the device may be supported on an upright spindle, comprising: a spacer body portion adapted to extend between the apertures in said body members, said body portion having a circular central opening to receive a spindle; and end portions adapted to project through said apertures, said end portions having eyes to receive retaining pins.

10. A removable rigid spacer and mounting member adapted to be positioned between complementary apertures in a pair of spaced body members of a rotatable display device so that the device may be supported on an upright spindle, comprising: a single piece of wire formed to provide a central closed loop to receive a spindle, spacer portions extending in opposite directions from the loop and in the plane thereof, open hook portions at the ends of said spacer portions adapted to extend through the apertures in the body members to form eyes which receive retaining pins, and terminal abutment fingers extending substantially perpendicular to said eyes so that they may lie against the inner faces of said body members.

11. A display device adapted to be mounted on a vertical spindle for rotation by the wind, comprising: two body members of sheet material provided with complementarily disposed hinge lines parallel to their vertical edges which divide each of said body members into a display portion, a narrow impeller margin and a wide attaching margin, the impeller margin of each body member being secured to the attaching margin of the other body member so that said members are collapsibly disposed with their display portions in parallel spaced relation and their impeller margins parallel and extending obliquely in opposite directions from said display portions; a plurality of removable combined spacer and mounting members positioned along the vertical axis of the display device, each of said combined members have a transversely extending spaced body portion with a central aperture to receive a vertical spindle and eye portions at the ends of said spacer body portion extending through apertures in said body members; and removable retaining pins extending through the eye portions and abutting margins of the apertures to retain the device in an assembled position.

12. The display device of claim 11 in which each spacer member is formed from a single piece of wire having a central closed loop forming the mounting aperture and open loops at its ends forming the eyes, and said wire members terminate at their opposite end portions in abutment fingers which are disposed substantially perpendicular to the plane of the eyes and lie against the inner faces of the body members.

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