Sept. 26, 1939. C. E. STAINBROOK 2,174,047

PORTABLE ADVERTISING DEVICE

Filed Dec. 20, 1937 4 Sheets-Sheet 1

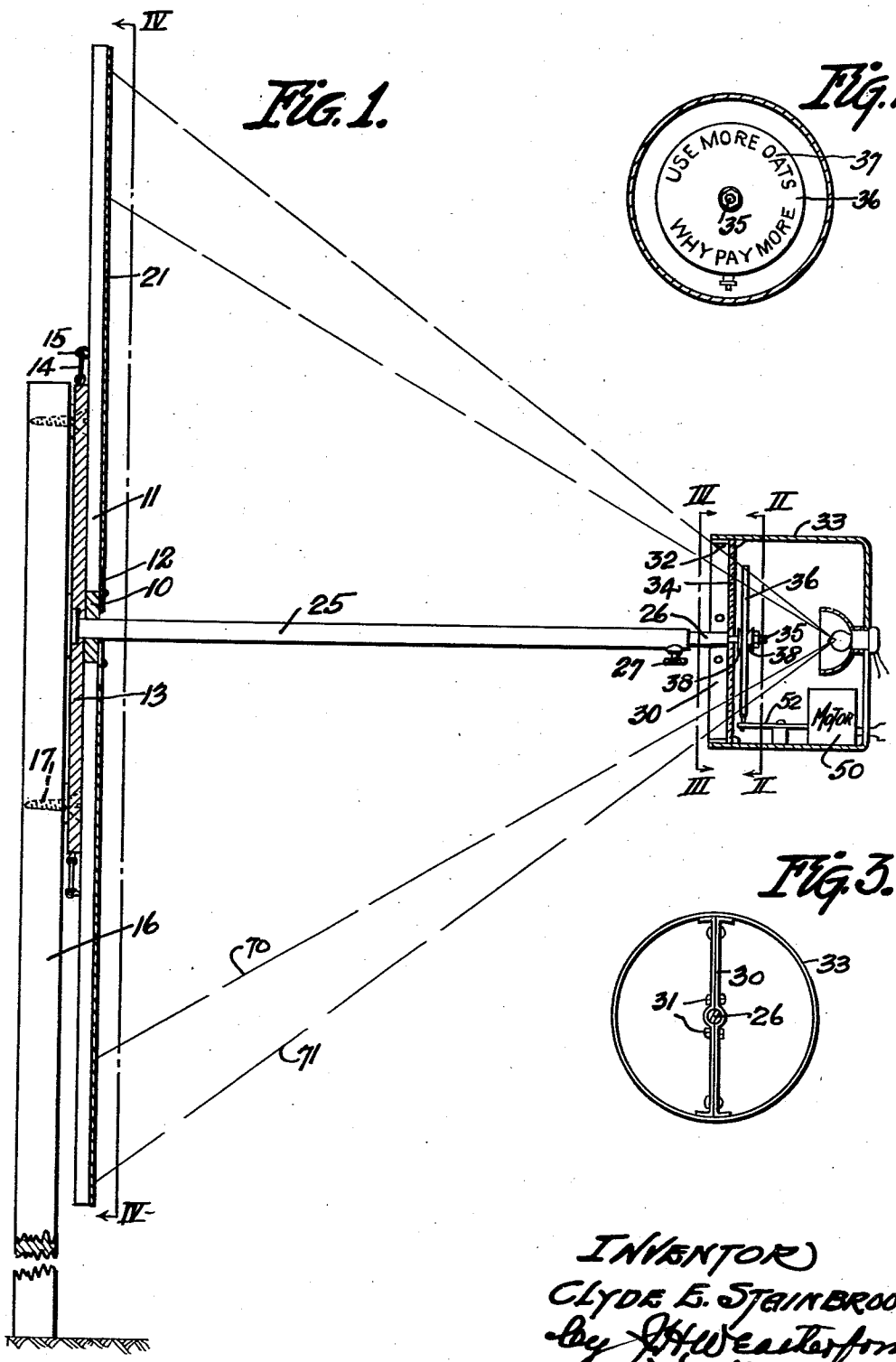


Fig. 1.

Fig. 2.

Fig. 3.

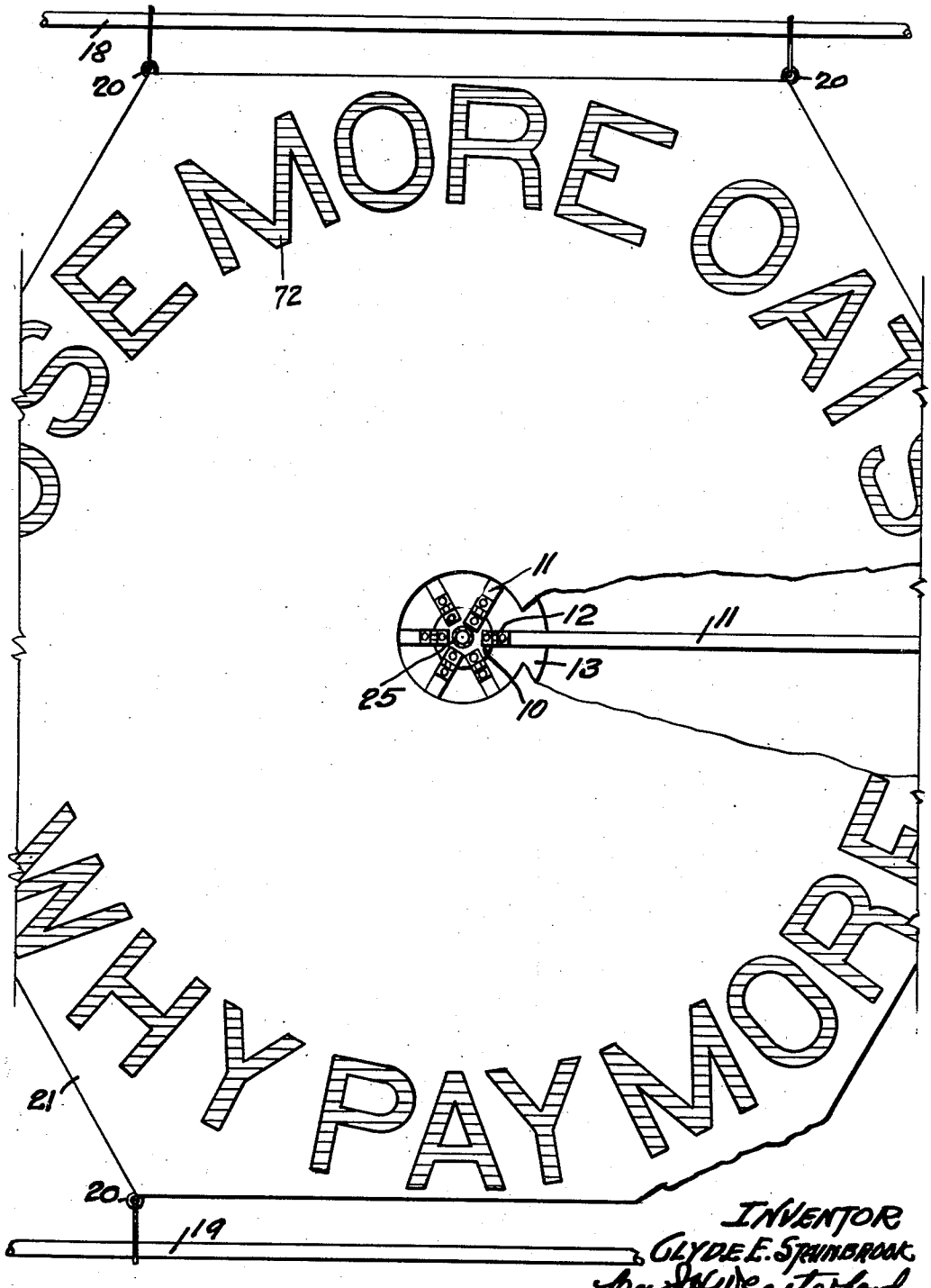
INVENTOR
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Fig. 4.



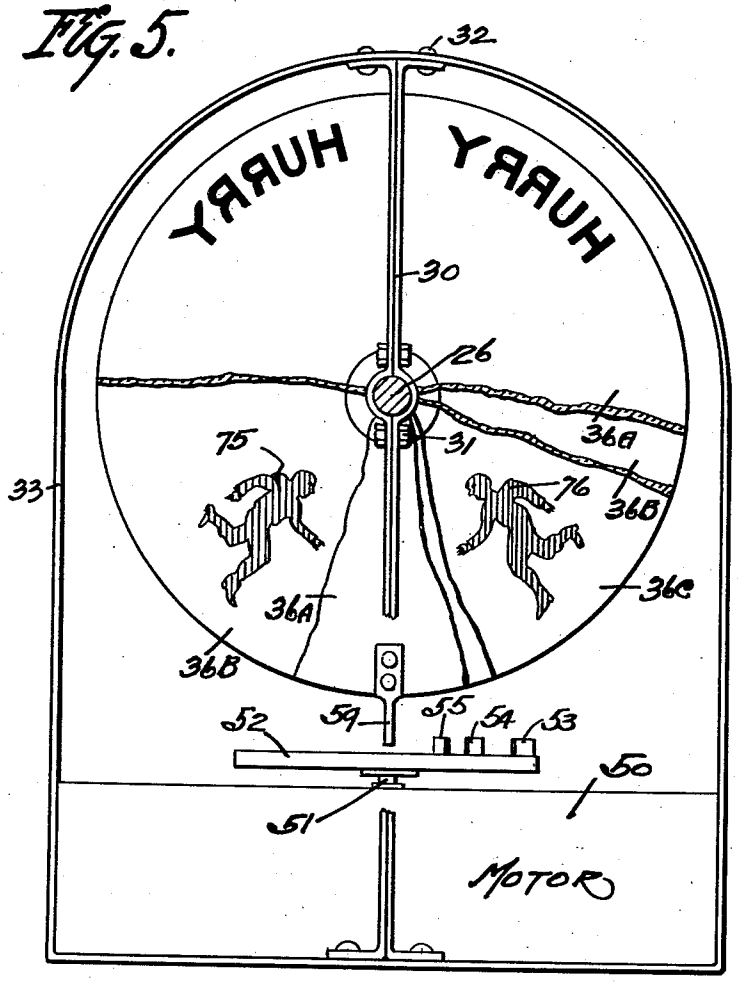
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FIG. 5.



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FIG. 6.

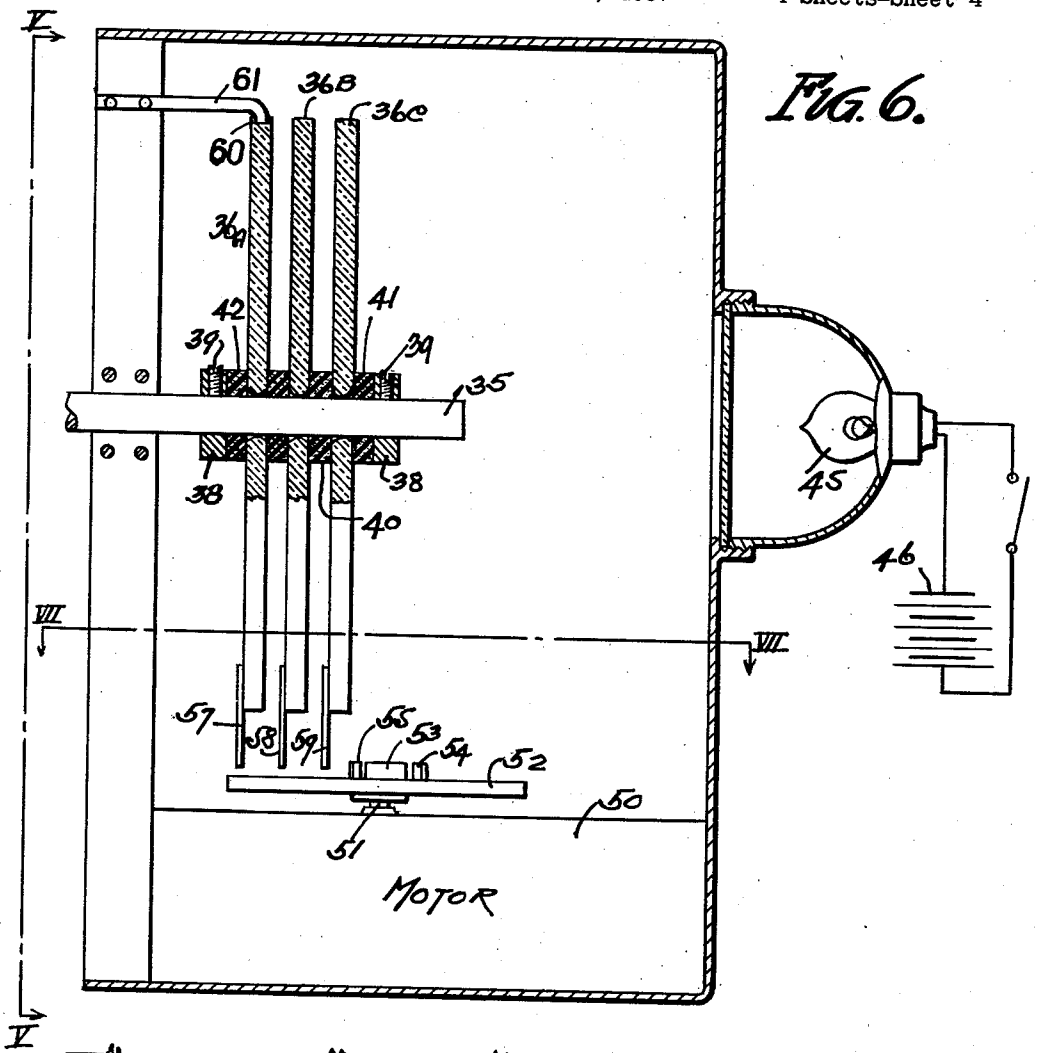
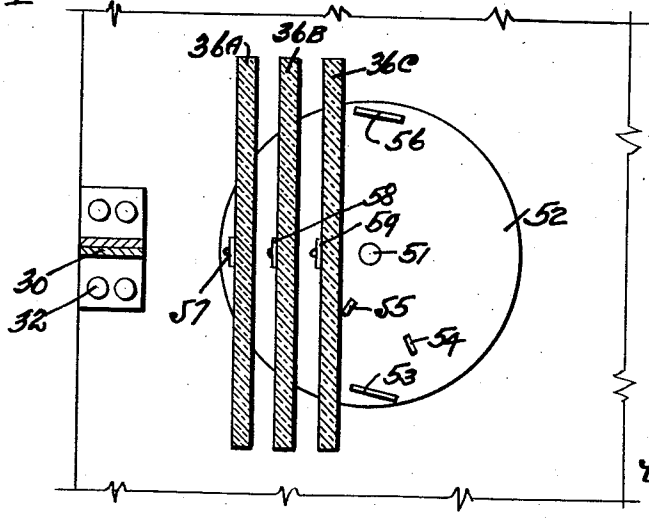


FIG. 7



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PORTABLE ADVERTISING DEVICE

Clyde E. Stainbrook, Memphis, Tenn.

Application December 20, 1937, Serial No. 180,671

5 Claims. (Cl. 40—130)

This invention relates to improvements in portable devices for displaying advertising and has particular reference to a device of this kind, which has a collapsible frame and screen and a supporting member carried by the frame and projecting rigidly therefrom, this member being adapted to support a transparent disk and a light for projecting the shadow of information or other matter on such disk upon the screen. It relates more particularly to such a device in which movement is imparted to the disk to cause attention-attracting movement of the shadow cast on the screen.

The objects of the invention are:

To provide a screen which may be folded for transportation from one point to another and thereafter readily set up for use;

To provide, in connection with such screen, a rigidly projecting support which is adapted to carry one or more transparent or translucent disks, each of which has thereon indicia, which it is desired to display on the screen, which is also adapted to carry lighting means, by which the indicia on the disk is thrown on the screen, and which also supports a motor for imparting motion to the disk or disks.

A further object of the invention is to provide a support projecting from the screen, which support may be varied in length to position the light and other mechanism closer to, or further away from, the screen, and on which support the disk may be positioned with reference to both the light and screen;

A still further object is to provide in connection with a screen, a projector having means in connection therewith for agitating the object thrown on the screen.

The means by which the foregoing and other objects are accomplished will readily be understood from the following specification on reference to the accompanying drawings, in which:

Fig. 1 is a sectional side elevation taken on the center line of the device.

Fig. 2 is a sectional view taken on the line II—II of Fig. 1.

Fig. 3 is a sectional view taken on the line III—III of Fig. 1.

Fig. 4 is an elevation of the screen taken on the line IV—IV of Fig. 1, showing the display of Fig. 2 as projected on the screen.

Fig. 5 is a sectional elevation taken as on the line III—III of Fig. 1, being the line V—V of Fig. 6, showing a projector with three disks mounted on the support.

Fig. 6 is a sectional elevation showing the outer end of the support with a plurality of disks mounted thereon, the section being taken on the same line as Fig. 1.

Fig. 7 is a sectional plan taken on the line VII—VII of Fig. 6.

Referring now to the drawings in which the various parts are indicated by numerals, the screen frame comprises a boss 10, to which a plurality of arms 11 are secured as by hinges 12. This boss projects from a base 13 against which the arms 11 may be opened and braced, each arm when open being individually secured to the base, as by a hook 14 and eye 15. In Fig. 1 the base is secured to a post 16 as by a screw 17, the post supporting the screen frame when in use and obviously being replaceable by a wall or some other supporting means, should such means be available. In Fig. 4 cables 18, 19 have been substituted for the supporting post, certain of the arms 11 having been provided with eyes 20 usable in accomplishing such attachment. 21 is a screen, preferably of cloth, such as canvas, which is directly attached to the arms 11, which canvas is stretched into a smooth flat surface when the arms are opened and is folded up, much as an umbrella is folded, when the arms 11 are released and folded inward at right angles to the boss and base 10 and 13.

25 is a support, preferably a section of ordinary wrought iron pipe which is rigidly secured in any suitable or desired manner to the boss and base 10 and 13 and which support extends outward at right angles to such members. Slidably disposed in the support is an extension 26, which may be moved inward and outward relatively to the support to increase or decrease the effective length thereof. 27 is a set screw by which the support and extension may be clamped together. Mounted on the outer end of the extension is a bracket 30, which may be made up of two strips of thin metal, such as sheet iron, the bracket having a central portion shaped to embrace the extension 26 and adapted to be clamped therearound and thereto by bolts 31. The upper and lower ends of the bracket 30 are adapted to be secured, as by rivets 32, to a casing 33, which casing preferably encloses and protects the projecting mechanism and the actuating means therefor. The front of the casing 33 may be closed by a pane of glass 34, should it be so desired.

The extension 26 projects through this pane either full size or reduced in diameter to form a disk shaft 35 on which is mounted a disk 36 on which disk there is imprinted such legend, pictures, or other indicia as it is desired to display

on the screen 21, such a legend 37 comprising words only being shown in Fig. 2. If desired, as shown in Figs. 5 and 6, a plurality of disks 36A, 36B, 36C may be used instead of a single disk, it being provided ordinarily in such cases, however, that the indicia on each such disk be complementary to that on the other disks and be so co-ordinated therewith that interference will not occur under use as hereinafter set out. The disk 36, or the disks 36A, 36B, 36C are loosely mounted on the disk shaft 35, being ordinarily disposed between collars 38, secured to the shaft 35, as by set screws 39, these collars being spaced slightly away from the disk to allow not only rotary motion of the disk but transverse oscillation thereof. Where a plurality of disks are used they are preferably spaced apart by collars 40, as of sponge rubber, and additional collars 41, 42, of the same material are preferably used between the outer disk surfaces and the collars 38. It will be noted that the collars 38 have a limited adjustment along the shaft, so that they may be adjusted to a limited extent relative to the light, this light in the present instance being an electric light bulb 45 which may be fed with current from any desired source, such as a power line, if same be available, or by a battery 46 as shown.

50 is a casing enclosing a motor having a projecting shaft 51 driven by suitable, usual and well known mechanism housed within the motor casing, such mechanism being of well known clock work or electric motor type and obviously not necessarily being set out. The shaft 51 is driven by the motor at slow speed, as for instance one revolution every five seconds. The shaft 51 carries a plate 52 on which are mounted projecting lugs 53, 54 and 55, there being at least one such lug for each disk which it is desired to move. One or more additional lugs, as the lug 56, may be used for any one or all of the disks should it be desired to impart additional impulses to such disk or disks during a revolution. It will be noted that the lugs 53 and 56 have been spaced diametrically opposite, such spacing, however, may be varied as the exigencies of the situation demand. The lugs 53 and 56 move in the same circumferential path and the lugs 54 and 55 in different circumferential paths both from each other and from the lugs 53 and 56. Each of the disks is provided with a trip, 57, 58, 59, respectively, which trips are adapted to hang in the path of the lugs 53 and 56 and the lugs 54 and 55, respectively. The trips in addition to their function as trips serve as weights to restore the disks to their initial positions after displacement by action of the lugs. The lugs may be radially disposed, as are the lugs 53 and 54, whereby they will engage the trips and impart to the disks rotary oscillation, or they may be disposed as are the lugs 53 and 56, so that they engage the trip 57 in a manner to impart to the disk 36A a transverse oscillation. If such transverse oscillation only is desired the disk 36A may be restrained from rotation by providing, as at its upper edge, a notch 60 and engaging with such notch a detent 61 secured as to the brace 30.

In Fig. 1, rays 70 and 71 from the bulb are shown passing through the outer and inner edges of the indicia on the disk 36 and striking the surface of the screen; and in Fig. 4, 72 indicates the shadow of the indicia on the screen itself.

It will be understood that the end of the support casts a shadow on the center portion of the screen and that therefore no use can be made of such portion; and it will also be seen that the bracket 30 will likewise cast a shadow on the screen, but such latter shadow is minimized by the thinness of the bracket, no attempt, however, has been made in these views to show such shadows. While only the edge portion of the screen and disk are shown in use in Fig. 4, it is apparent that a much larger portion of both may be used, as in the disks 36B, 36C, though obviously that portion which would be projected within the shadow of the end of the disks shaft 35 can not be so used.

Where a plurality of disks are used, it is found preferable to put indicia on the upper half of one disk and on the lower quadrant of each of the other disks, as delineated in Fig. 5.

All of the indicia may be in black and opaque, or portions may be only partially opaque, and such latter portions, if desired, may be in colors. In some cases the entire disk is covered with a translucent color or colors and the principal indicia made either opaque or transparent as provides the most effective and pleasing contrasts.

In use, with the hooks 14 disengaged from the ribs 11 and the screen folded, much in the order of an ordinary umbrella, the device is transported to the location where it is to be used. When the location is reached the base 13 is secured to a post, wall or other vertical support, as by the screws 17. The screen is opened up, the hooks 14 are engaged with eyes 15, to hold the ribs 11 solidly against the base, and to hold the screen smooth and flat. Disks 36A, 36B, 36C, (or a single disk 36, if desired), having thereon the indicia to be displayed at the particular time, are placed on the disk shaft 35 between the collars 37 and 38 with the spacing washers 40, 41, interposed. The support 25 and the extension 26, and if desired the positioning of the collars 37 and 38 and interposed disks, are then relatively adjusted until the desired positioning of the indicia on the screen is obtained, and the various parts are secured in such position.

With the device set up and the bulb turned on the three disks shown in Fig. 5 should cast on the screen the words "Hurry, Hurry" and two figures 75, 76 facing and poised as in flight. When the motor is turned on, the plate 52 turned thereby brings the lugs 55 into contact with the trip 49 moving the figure 75 away from the figure 76. The lug 53 engages the trip 57, moving the lower edge of disk 36A outward and the upper edge inward toward the bulb 45, causing the shadow of the words "Hurry, Hurry" to increase in size on the screen, and subsequently releases the trip and disk, allowing the words to decrease in size. The lug 55 engages the trip 58 and moves the figure 76 toward the figure 75. Preferably as this latter motion begins the lug 55 disengages from the trip 59 and allows gravity to reversely swing the figure 75 toward the figure 76, creating the effect of the figures moving toward each other at speed, the concurrent effect of the motions being to impart animation and life to the screen and thereby attract attention to it.

I claim:

1. In an advertising device, a frame including a central member having a support projecting therefrom at right angles, a plurality of arms hingedly connected to said central member and adapted to be folded along said support, said arms being openable against portions of said member, means for securing said arms, when in open position, to said portions to establish a substantially flat frame, a canvas covering secured to said arms and supported thereby, in open position of said arms, to form a substantially flat screen, and a

projector mounted on the outer end of said support facing said screen.

2. In an advertising device, a frame including a central member having a support projecting therefrom at right angles, said support being longitudinally adjustable, a plurality of arms hingedly connected to said central member and adapted to be folded along said support, said arms being openable against portions of said member, means for securing said arms, when in open position, to said portions to establish a substantially flat frame, a canvas covering secured to said arms and supported thereby, in open position of said arms, to form a substantially flat screen, and a projector mounted on the outer end of said support facing said screen, said projector being adjustable with said support toward or away from said screen.

3. In an advertising device, a screen, and a projector supported in front of and facing said screen, but spaced therefrom; said projector including, a source of light facing said screen, a transparent disk oscillatably mounted between said light and said screen, said disk carrying indicia for projection by said light on said screen, a motor, and co-operating means on said disk and motor, intermittently engaging to impart oscillatory motion to said disk on operation of said motor.

4. In an advertising device, a screen, and a projector supported in front of and facing said screen, but spaced therefrom; said projector including, a source of light facing said screen, a plurality of transparent disks oscillatably mounted between said light and said screen, said disks carrying indicia for projection by said light on said screen, a motor, and intermittently engaging means on said disks and motor, co-operating to impart dissimilar oscillatory motion to said disks on operation of said motor.

5. In an advertising device, a screen, and a projector supported in front of and facing said screen, but spaced therefrom; said projector including, a source of light facing said screen, a plurality of disks each oscillatably mounted between said light and said screen, said disks carrying indicia for projection by said light on said screen, a plurality of motor driven means, one for each said disk, and co-operating means on each of said disks intermittently engageable by said motor driven means to impart independent oscillatory motion to each of said disks on operation of said motor.

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