

[54] SIGN OR DISPLAY DEVICE

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[22] Filed: **Dec. 29, 1969**
[21] Appl. No.: **888,556**

[52] U.S. Cl.**40/137, 352/81, 40/106.52**
[51] Int. Cl.**G09F 13/04**
[58] Field of Search ..40/137, 106.51, 106.53, 132 F, 40/106.52, 132 E; 352/81; 350/167

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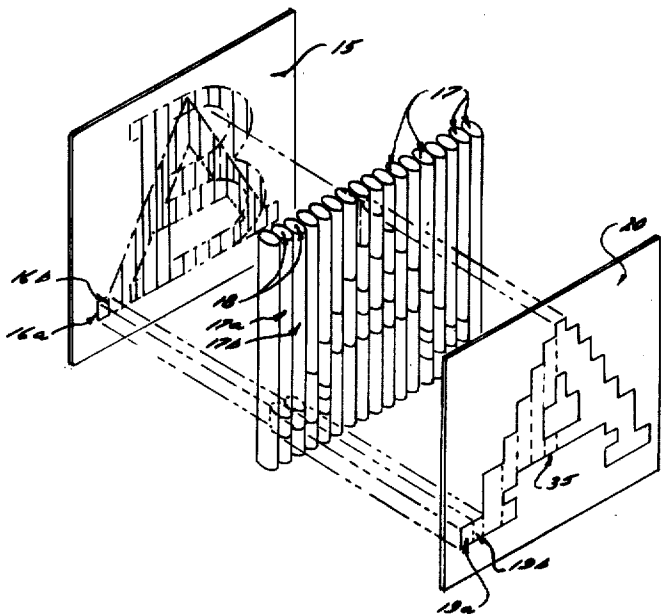
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[57] **ABSTRACT**

A sign or display device providing changeable indicia, or movement of scenes or figures, with color changeable as desired, is produced by means of linear indicia on an object member, aligned with elongate optical magnifying members, preferably cylindrical to reproduce enlarged changeable images on a translucent frosted viewing surface. The shape of the device may be varied to provide 360 degree exposure or less. Interchangeable object members provide an economical variety of images and colors using the same light source for all. The structure and its method of manufacture are simple and economical.

12 Claims, 10 Drawing Figures



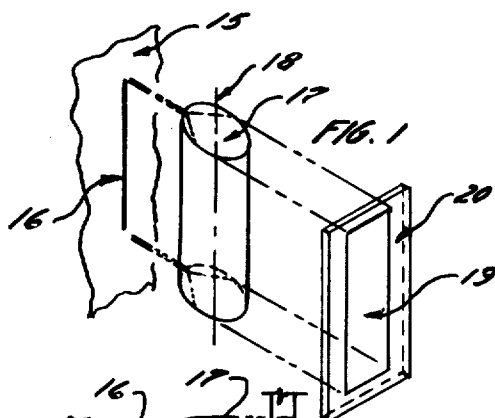
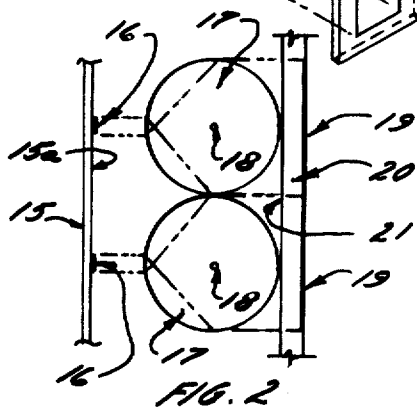
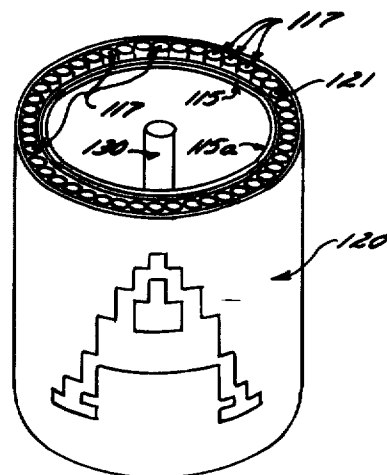


FIG. 7

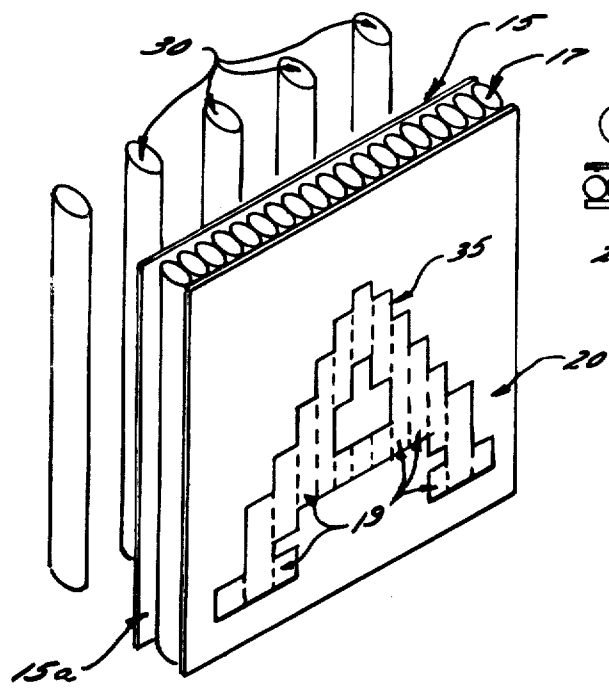


FIG. 4

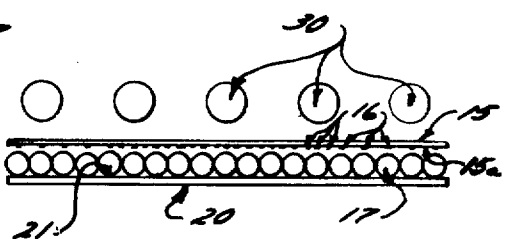
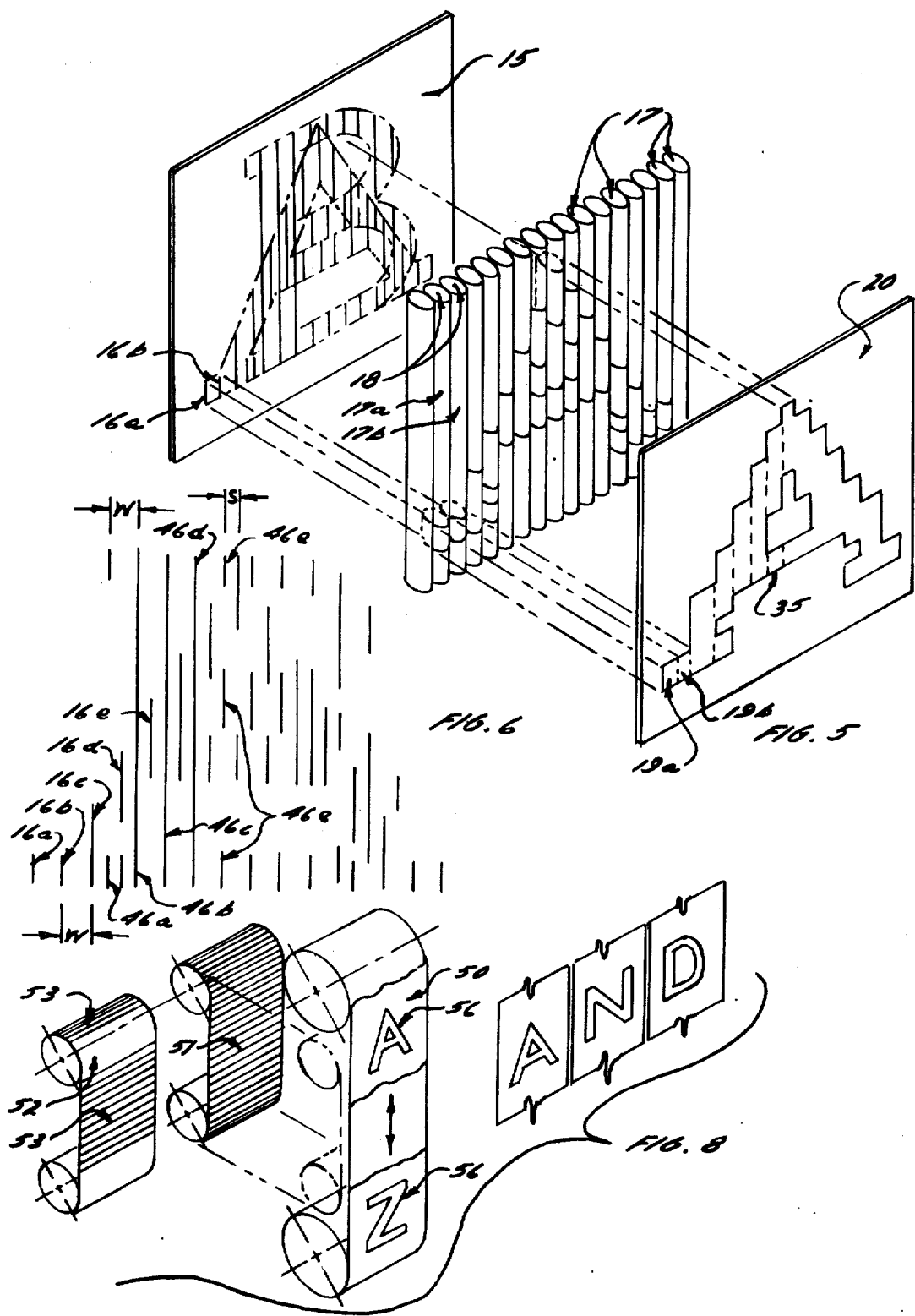
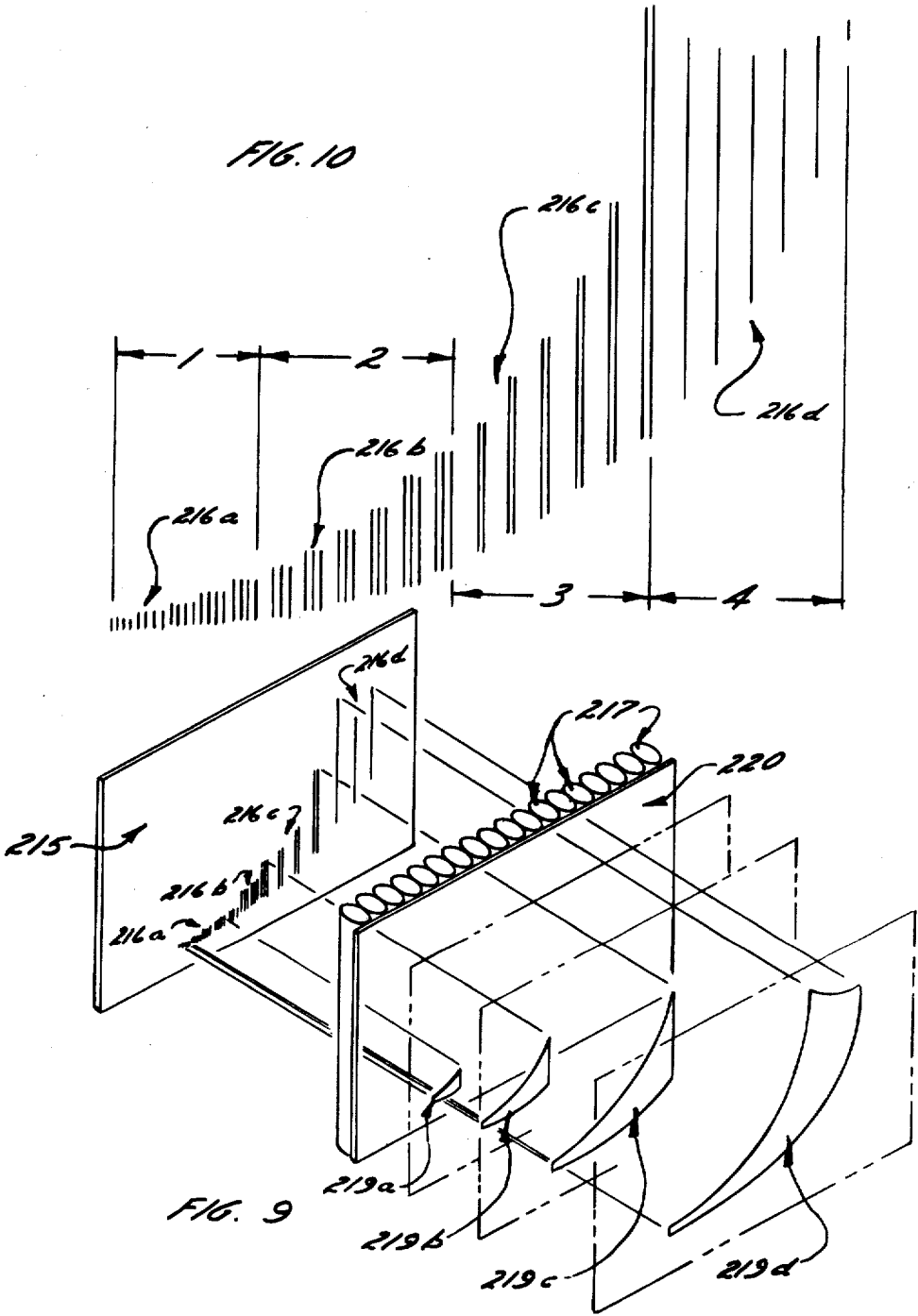


FIG. 3





SIGN OR DISPLAY DEVICE

This invention relates to new and useful improvements in movable indicia signals, figures or signs.

A particular object of the invention is to provide an improved method and system of producing large movable signs or indicia signals, in which the signals or figures depicted on the sign change or show motion, may be formed in color, utilize minimum light energy, and are visible from all exposed angles of the viewer to the sign.

A further object of the invention is to provide a sign or indicia bearing signal device of the character described in which the figures or indicia upon the sign or signal carrying device are movable, and are produced in various colors, if desired; which may be viewed at day or at night; and which sign is adaptable for use on counters, in show windows, or walls, and large displays on buildings or the like.

A further object of the invention is to provide a sign and a method of producing the same in which the sign presents a movable picture viewable from 360° entirely around the sign, if desired.

An important object of the invention is to provide a method of producing a movable indicia signal display device or sign in which movement is produced by means of a plurality of sets of spaced lines on a primary pictorial surface movable with relation to a plurality of spaced magnifying elements such as cylindrical glass rods, or elongate conical segment glass rods, fixed in position with respect to a frosted or translucent reproduction or display surface on which the magnified images of the lines are reproduced to form a figure or indicia of any desired pattern or color which moves from one rod or conical section or segment of the magnifying portion of the device to another to produce movement of the sign or indicia reproduction across or around the reproductive surface.

Still another object of the invention is to provide a sign and a method of making the same in which the pictorial image or indicia carrying primary plate, sleeve, roll or cylinder, the magnifying rods or conical segments or sections, and the reproductive translucent display surface are movable with respect to each other to produce movement of the sign or indicia enlargement produced and appearing on the reproductive or display surface.

Still another object of the invention is to provide a method of producing a moving image of indicia or figures or pictures or the like on a translucent reproductive or display surface from a magnified series of spaced sets of linear indicia printed on or otherwise produced on a pictorial primary surface in which the lines are spaced from each other a distance equal to multiples of the distance between the centers or axes of the cylindrical glass rods or conical segment or section members.

Still another object of the invention is to provide a device of the character described and a method of making the same which provides for economical production of the signal or indicia on the primary pictorial surface for reproduction on the viewing surface or reproductive or display surface whereby the signs or signals displayed may be economically changed as desired without otherwise affecting the installation.

A further object of the invention is to provide a sign and a method of making the same which produces a

picture or reproduction which may be viewed either in the daylight or at night, and in which the daylight viewing may be by means of natural illumination or additional artificial illumination provided in the device, and the evening or night time viewing may be produced by the artificial illumination, with a minimum of power required for the same.

Still another object of the invention is to provide a method of making a sign of the character described wherein the indicia or pictorial reproduction produced may be constantly changed or may be repeated in sequence, or in segments, and wherein the colors of the indicia or signal produced on the reproductive or display surface may be varied as desired.

Additional objects and advantages of the invention will be readily apparent from the reading of the following description of the invention, and reference to the accompanying drawings illustrating the same, wherein:

FIG. 1 is a schematic isometric illustration of an indicia symbol and a magnifying rod and the magnified image on the reproductive or display surface, illustrating the manner in which the indicia or picture reproduction is formed;

FIG. 2 is a fragmentary schematic plan view illustrating the manner in which the indicia lines are magnified by the magnifying rods to provide the desired signal or image on the viewing surface;

FIG. 3 is a fragmentary end view showing the arrangement of the sign or signal structure, and the illumination thereof;

FIG. 4 is a view, in perspective, of the device of FIG. 3 showing an image reproduced on the viewing surface or reproductive display surface;

FIG. 5 is an enlarged exploded view of the indicia bearing primary surface or pictorial surface, the magnifying rods and the reproductive or viewing surface of the device shown in FIG. 4, illustrating the manner in which the signal, indicia or picture is reproduced on the viewing or display surface;

FIG. 6 is a plan view of the indicia lines as applied to the surface of the pictorial surface of FIG. 5 showing the manner in which the lines forming the letters A and B are ruled or drawn in spaced relationship on the primary surface to provide for sequential or selective showing of the same on transverse movement of the pictorial or primary signal carrying surface or member relative to the magnifying rods;

FIG. 7 is a fragmentary schematic plan view of a device constructed in an arcuate or cylindrical shape to provide a sequential constantly moving display around the arcuate or cylindrical reproduction or viewing surface;

FIG. 8 is a schematic exploded view showing the manner in which a movable sign or display may be constructed to produce a continuously changing or sequentially changing signal or picture on the viewing surface and to produce varying color arrangements in said signal or sign or display;

FIG. 9 is a view similar to FIG. 5 showing the manner in which movement is produced to provide a continuously growing signal or picture upon movement of the indicia gearing or pictorial primary surface or member with respect to the magnifying rods to produce the desired shape or the viewing or reproductive or display surface; and,

FIG. 10 is a view similar to FIG. 6 showing the manner in which the lines are ruled or drawn or produced in spaced relationship on the indicia or pictorial bearing pictorial primary surface and spaced with respect to each other into groups to produce a first, second, third and fourth group of indicia or pictorial signals on the viewing or reproductive surface to show motion.

In the drawings, FIGS. 1 and 2, the numeral 15 designates a primary image carrying panel or object member, having a plurality of indicia 16 formed or imprinted thereon at spaced intervals and shown to be in the form of narrow elongate lines or strips. A plurality of longitudinally parallel laterally abutting glass rods 17 are disposed adjacent the face 15a of the strip 15, and between the member or panel 15 and a reproduction screen or display panel member 20 in the form of a translucent panel or frosted screen of glass or plastic upon which magnified images 19 corresponding to the lines or indicia 16 are reproduced. As is shown in FIGS. 1 and 2, the indicia line 16, when in parallel relationship to the axis 18 of each of the glass rods 17, is optically enlarged and reproduced, as shown by means of the dotted lines, as the image 19 on the translucent frosted screen or display panel 20. The spacing of the primary object panel or member 15 from the rods is such that the indicia lines 16 are magnified by the rods 17 as light is transmitted through the rods to the translucent reproductive panel or display screen 20 to produce the enlarged image thereon.

As shown in FIG. 1, the cylindrical glass or plastic rods 17 are spaced from the translucent display reproductive or display screen 20, but in FIG. 2, as in actual practice, the cylindrical rods or members 17 are adjacent or abutting and may be affixed to the rear surface 21 of such panel or translucent reproductive screen, and the primary or object panel 15 having the indicia 16 thereon may be placed closely adjacent the diametrically opposite portion of the cylindrical rods, substantially as shown in FIGS. 3 and 4. Light sources such as fluorescent light tubes 30 may be positioned behind or on the opposite side of the object plate or panel 15 to illuminate the panel and the cause the indicia 16 to be readily transmitted through the magnifying rods 17 to the translucent display screen or panel 20.

In FIGS. 3 and 4, a large number of cylindrical rods 17 are shown mounted adjacent the rear face 21 of the translucent display screen or member 20, and the primary or object panel or member 15 having a plurality of spaced indicia 16 thereon is positioned on the diametrically opposite side of the rods 17 so that the light sources 30 may illuminate the indicia 16 to project the same through the rods to the display screen 20. As will be noted, the indicia lines 16 may be provided at intervals spaced from points spaced from the surface of the rods 17 diametrically opposite the translucent surface or panel 20, for purposes to be hereinafter more fully explained. As shown in FIG. 4, a letter A has been formed by the selection of indicia 16 of suitable length and arrangement disposed in spaced relationship on the object panel to be aligned with the rods 17 diametrically opposite the translucent panel 20 to cause the representation of the letter "A" designated by the numeral 35 to be displayed on the translucent surface 20 as result of the illumination from the light sources 30.

The indicia lines 16 are arranged suitable on the object or primary panel 15 to form the magnified images 19 to produce "A" as illustrated in the exploded isometric view of the device shown in FIG. 5. A plurality of vertical lines 16 are provided on the object panel or primary or objective panel 15 in a position to be disposed on the adjacent tangent side of the elongate rods 17 in proper relationship to produce the enlarged images 19 which form the letter "A" shown at 35 on the translucent reproduction screen or display panel. As will be seen, at the lower left hand corner of the letter "A," the lines 16a and 16b are disposed in spaced relationship corresponding to the distance between the axes 18 of two adjacent rods 17a and 17b at the left hand side of the sign structure, the rods being the second and third from the left in the view. Since the projected images 19a and 19b on the screen 20 are enlarged to substantially the full diameter of the rods or cylinders 17, only a very narrow linear indicia line 16a and 16b spaced to correspond to the spacing of the axes of the rods is necessary to provide a full section of the letter "A" on the screen 20. Similarly, other sections of the letter "A" are formed by other lines spaced apart a distance corresponding to the spacing of the axes 18 of the rods 17. Thus, the linear indicia lines on the primary or object plate or panel 15 are magnified by the rods 17 to produce the images 19 on the translucent screen or display surface 20 to produce the letter "A" shown at 35.

In FIG. 6, is shown the manner in which the lines 16a, 16b, 16c, 16d, et seq. are drawn or formed on the primary or object plate or panel 15 to produce the letter "A." To produce a letter "B," a plurality of similar lines 46a, 46b, 46c, et seq. are formed on the panel at positions spaced from the lines 16a, 16b, 16c, etc. as shown. The lines 46a, 46b, 46c, et seq. are also each spaced from each other a distance equal to the distance W between the axes 18 of the rods 17, so that when the primary or object panel or plate 15 is moved laterally or transversely of the rods in the sign to position the lines 46a, 46b, 46c, etc., tangent the side of the rods diametrically opposite the display or translucent screen 20, the letter "B" will appear. The line 16a, 16b, 16c, etc., which are spaced a distance "S" from the lines 46a, etc., will be out of focus or out of tangential registry with the rods 17, and therefore will not appear on the display screen 20. Only the lines 46a, 46b, 46c, 46d, etc., will be magnified and reproduced, and therefore the letter "B" will be shown on the screen 20 rather than the letter "A." In this manner the letters appearing on the screen may be changed or altered by shifting the primary or object panel 15 laterally with respect to the rods 17 to bring a different set of lines or indicia into tangential registry with the portions of the rods 17 diametrically opposite the display screen or translucent display surface 20, to permit changing the image displayed on the translucent screen or display surface.

If the indicia lines 16a, 16b, 16c, etc. are opaque, then a dark images 19 are produced on the display screen or translucent panel 20. If the lines 16 are translucent and colored, a colored image or reproduction 19 of the lines will appear on the surface of the display screen or panel 20. Likewise, it is believed readily apparent that, if desired, the lines 16a, 16b, 16c, etc. may be red, while the lines 46a, 46b, 46c, etc., may be blue

or green or yellow, or any other desired colored, so that letters of different colors may be reproduced or displayed on the display surface of the translucent screen or display panel 20.

As shown in FIG. 6, the distance g between the sets of lines or indicia 16a, 16b, 16c, etc., forming the letter "A" is shown to be a distance "W" corresponding to the distance between the axes 18 of the rods 17. The lines 46a, 46b, 46c, etc., are spaced from the lines 16a, 16b, 16c, a distance shown as "S" in FIG. 6, but the distance between each of the lines of the set of lines forming the letter "B" is equal to the distance "W," so that the lines appear as separate sets on the reproductive screen or translucent display screen 20 after having been magnified by the rods with which they register. The lines 16a, 16b, 16c, etc., are spaced from tangential registry with the rods 17 when the lines 46a, 46b, etc., are in tangential registry with the portions of the rods diametrically opposite the translucent screen or display screen 20, so that the lines 16 are not transmitted to the rods 17 to the screen while the lines 46 are reproduced. It will readily be seen that so long as the distance "S" between the sets of indicia lines defining the different letters of the alphabet or other symbols to be displayed on the panel 20 is sufficiently great, so that the lines of one set are spaced apart a sufficient distance from the next set of lines, the lines which do not register with the glass or plastic rods 17 will not be reproduced and any number of sets of lines forming any number of sets of figures, letters or other indicia may be drawn or formed on the primary or object panel 15 between the adjacent indicia lines of any other set of such lines. The width of each of the indicia lines 16, 46 and the like, is such that when it is tangentially registered with its adjacent rod 17, a substantially solid continuous enlarged reproduction is formed on the image screen or display screen 20, and the spacing between the indicia lines is dependent upon the distance between the axes 18 of the rods 17, so that the number of sets of lines is dependent upon the diameter of the rods 17.

Moreover, it is readily apparent that, if desired, a plurality of elongate longitudinally movable strips 50 having a plurality of separate sets 56 of indicia lines thereon may be moved into position tangentially registered with the adjacent sides of the rods 17 to produce images on the display screen, and the indicia appearing on the primary or object strip 50 may be varied by moving the strip 50 longitudinally to position a different set of indicia lines in registry with the glass rods 17. It is also believed obvious that a plurality of such strips may be positioned in adjacent parallel side by side relationship to provide a plurality of sets of strips of indicia lines in registry with the glass rods 17 to form words, such as the word "AND" as shown in FIG. 8, and that these indicia may be altered as desired to spell words or convey messages by means of design structure. Also, an elongate strip 51 of colored film may be disposed as shown in dotted lines adjacent the indicia bearing strip 50 and the light from the light source be transmitted therethrough to the indicia and through the rods to the display panel or translucent screen 20 to give a color reproduction. The indicia lines or symbols 56 may be solid as shown in FIG. 8, or may be lines as indicated in FIG. 6. In either case, the

symbols may be opaque and the background clear, or the symbols may be clear and the background opaque, in which event the color strip or film 51 will impart a color to either the translucent or transparent indicia or figure, or to the background for the opaque figure or indicia as desired. Also, it is believed readily apparent that a plurality of different color areas 53 may be provided on a strip 52 to move a segment of color 53 into alignment with the portion of the sign in which the indicia or figure is being displayed, thus, different colors may be transmitted to the translucent or frosted display screen 20 as desired. Also, the colors may change in a continuous fashion on the strip 51.

As shown in FIG. 7, the translucent display screen or reproductive screen 120 may be formed in a cylindrical shape or as a part of a cylinder or cone, or the like, and the rods or tubes 117 may be affixed to the inner surface 121 of the screen in parallel relationship, while the primary or object film or panel or plate 115 may have a configuration corresponding to that of the cylindrical translucent display screen 120 and may be supported, if desired, by a suitable cylindrical backing member 115a for supporting the same as it is moved about an axis corresponding to the axis of the display screen 120. A suitable light source 130 within or on the concave side of the arcuate or curved or cylindrical screen 120 will transmit light through or past the indicia appearing on the primary or object screen 115 and cause the images to be transmitted to the surface of the frosted display screen 120 for viewing on the convex side thereof. Obviously, if the screen 120 is cylindrical, a continuous rotary object film or member 115 may be used to cause a continuous reproduction of a scene to pass around the 360° surface of the cylindrical display screen 120 for viewing on all sides thereof.

If desired, of course, the plastic or glass rods 17 may be slightly conical to produce a desired configuration on the display screen surface. Also, the apical portion of the conical segments of adjacent rods may be reversed in direction to produce an unusual lighting and reproductive display effect, if desired.

While the object or primary sheet, plate or member 15 has been described as moving with respect to the rods 17 and the translucent image screen 20, it is believed readily apparent that the rods may move with respect to the primary object plate or member, if desired, and that such movement may take place between a stationary translucent display screen 20 and a stationary object or primary member 15.

Also, it is believed readily apparent that the rods 17 may be suitable formed integral with the translucent image or display screen 20, if desired, to move integrally therewith, or to be held stationary thereby while relative motion between the rods is brought about by movement of the primary object member with respect to the rods, or the rods with respect to the object member, as desired.

To produce a continuing enlarging or expanding image, such as a shooting star or similar pictorial representation of continued movement from an initial stage or source through a continuously growing or expanding set of stages, the primary or object sheet or member 215 may be provided with a plurality of sets of lines arranged in stages, as shown in FIGS. 9 and 10. The stages, 1, 2, 3 and 4, are arranged in such a manner

that one set of such lines registers with the rods 217 to provide an initial image 219a on the face of the translucent screen 220. The second set of lines in the first stage 216a also registers with the rods 217 at the same time that a first set of lines in the three sets of lines 216b in the second stage of the picture registers with another group of the rods 217 to produce the elongated image 219b which includes the area of 219a and the additional area added thereto by stage 2 to produce the further elongation of the figure or design. The third set of indicia lines 216a in stage 1, the second set of lines 216b in stage 2, and the first of two sets of lines 216c are then moved into registry with the rods 217 to produce the further enlarged FIG. 219c. Next, the set of lines 216d of stage 4, together with the last set of lines in the sets of lines 216a, 216b and 216c are moved into registry with the rods to provide the completed elongated FIG. 219d.

In the first stage, the sets of lines 216a are spaced apart one-fourth of the distance between the axes of the rods 17 so that one set of the four sets of lines 216a in stage 1 is in tangential registry with the rods 217 at each position of the primary or object film with respect to the rods. Similarly, the sets of indicia lines 216b, of the second stage which are moved into registry with the rods 217 after the first stage has been displayed to produce the combined first and second stages and a larger image 219b, includes three sets of the indicia lines each spaced to correspond to the spacing between the adjacent rods 217 for the next three successive steps, so that the image remains continuous through the stages 219a, 219b, 219c and 219d. The third stage including the two acts of indicia lines 216c is moved into registry with the rods 217 after the first two stages have been moved into registry, so that when the primary or object screen or plate or film 215 is moved to its next position, the first set of lines or indicia lines 216c is moved into registry with the adjacent rods 217 while the second set of lines 216b in the second stage is moved into registry and the third set of lines 216a in the first stage is moved into registry with corresponding rods to produce the still further enlarged image 219c. Final stage four, formed by the indicia lines 216d, is moved into position in registry with the rods 217 and the second set of lines 216c of the third stage is simultaneously moved into registry, while the third set of lines 216b of the second stage is moved into registry, and the fourth set of lines 216a of the first stage is moved into registry with rods, so that a continuous gradually elongating or moving expanding picture is formed on the screen 220. Obviously, while a gradually flared picture or image is shown in FIG. 9 as having been depicted or displayed on the screen 220 by the successive stages of sets of indicia lines 216a, 216b, 216c, and 216d, other pictorial representations may be formed by the proper arrangement of a plurality of stages of indicia lines on the primary or object sheet or film. In this manner a moving man, a moving animal, or a moving article may be depicted as the stages of sets of lines move with respect to the rods 217, or as the rods move with respect to the indicia lines. Any portion of the scene or figure or picture which is constant, as the body of a man which does not itself move, may be formed of solid lines, or a solid block of indicia material, so that it is not necessary to form separate lines for that portion of the scene or picture.

While a light source has been provided in each case, it is believed readily apparent that the only requirement for satisfactory operation of the device is that sufficient light of sufficient intensity be present at the sign or signal to cause the pattern on the belt, plate or roll of the primary objective film, plate or screen or strip 15 to be reproduced on the frosted or diffusing area of the plate or viewing screen 20. Thus, a light would not be necessary in the daytime if the device were exposed in a window in which light is received from behind the object or primary sheet or film or member, or in which sufficient light is directed to the indicia appearing on the primary of object film, plate or sheet to cause the same to be readily visible through the magnifying rods and on the diffusing image screen or viewing screen 20. Also, the light need not be intense, and a low powered light may be used, if desired.

It is believed readily apparent, also, that the figures may be changed, movement may be caused, color may be altered, movement of figures, pictures and the like may be created by setting the indicia lines out of phase with any of the lines previously used so that a jump or movement of the figure being depicted may be obtained. The size of the rods, in diameter, will define the sharpness and shape definition of the picture presented on the viewing screen or translucent display surface 20, since obviously, when the rods are smaller the pictures will be sharper and more accurate.

Also, it is believed readily apparent that a suitable means of producing the indicia lines on the primary or object plate, sheet or belt 15 may be by means of a roller having radially projecting circumferentially spaced longitudinal ribs thereon extending outwardly radially from the center or axis of the roller and disposed to engage the primary objective plate at a distance equal to the distance between the axes 18 of the rods 17. The lines 16 may be picked up from a negative roll or transfer roll similar to the lithographic process to transfer the desired lines to the object or primary plate, film or sheet.

Also, actual photographs from figures, such as humans, in motion may be made from pictures of five stages of motion with lines blanking out all but one properly spaced set of indicia lines for each stage of the motion. All five of the sets of lines may then be projected on a single area on the primary or objective sheet or film 15 and would provide five picture states of five sets of separate lines spaced in a manner to match the rod spacing to obtain the desired motion, human motion or motion of other objects on the translucent viewing screen. Of course, more or less than five stages and sets of lines may be utilized, if desired, to obtain a proper satisfactory result.

By drawing or producing the lines on the object or primary member out of phase with any of the lines previously used in any set of lines or stages, a jump movement may be obtained.

The rods have been described as being made of glass, but may be obviously made of a clear plastic or similar material such as Plexiglass or other suitable optically satisfactory light transmitting material. Of course, a cylindrical tube filled with water or the like might function properly, though the solid rods are preferable. Also, the rods may be joined or fused along their abutting longitudinal side edges or surfaces, and may be fused to the translucent display glass or panel 20, if desired.

Also, it is believed readily apparent that the display screen may be omitted, if desired, and the indicia or picture reproduction viewed directly by means of the rods. This result is particularly obtainable if the rods are joined along their lateral abutting longitudinal side edges, as where extruded from a mold with a thin web between adjacent rods for holding them together. In this manner, the viewing or display screen could be eliminated.

Furthermore, the terms "indicia" or "figures" as used herein includes cut out openings in opaque object panels or strips, if desired, as well as any other medium of depicting desired indicia or configurations.

Also, it is to be noted that the depictions of the outline of the form of the indicia on the object panel 15 in FIG. 5 is merely informative and used to illustrate generally the figure or indicia to be formed by the lines 16 on such plate.

The foregoing description of the invention is explanatory only, and changes in the method and details of construction illustrated and described may be made by those skilled in the art, within the scope of the appended claims, without departing from the spirit of the invention.

What is claimed and desired to be secured by Letters Patent is:

1. A movable indicia signal or sign including: a translucent viewing screen having smooth front and rear sides; a plurality of elongate side by side optical magnifying members each having a complete full circular shape in cross-section disposed contiguous to the rear side of said screen; an object member having indicia consisting solely of rectilinear lines thereon disposed to be positioned longitudinally linearly tangentially contiguous to said magnifying members on the side thereof opposite the rear side of said viewing screen, said rectilinear lines being of varying predetermined lengths and being arrayed on said object member in predetermined spaced parallel positions to register with corresponding ones of said magnifying members in said longitudinally extending tangential contiguous manner to produce an image of each such line the length of the line and the full diametrical width of the magnifying member to which it is contiguous to produce the images of each of said rectilinear lines on said viewing screen in segments forming a desired complete figure or image display on said viewing screen when all such images of the lines are displayed on said viewing screen; and means for illuminating said indicia to produce said images forming said display through said screen.

2. A movable indicia signal or sign of the character set forth in claim 1 wherein: said rectilinear lines of said indicia are arrayed in parallel spaced sets and said object member is movable with respect to said magnifying members to move predetermined ones of said sets of lines of said indicia into longitudinal contiguous registry with said magnifying members to produce a varying display through said viewing screen.

3. A device of the character set forth in claim 2 wherein said object member is movable with respect to said magnifying members and said viewing screen in a direction transverse to the longitudinal axes of said elongate magnifying members to produce a plurality of images displayed through said viewing screen.

4. A device of the character set forth in claim 1 wherein said viewing screen is cylindrical and said elongate side by side magnifying members are mounted longitudinally tangentially contiguous to the inner surface of said viewing screen and said object member is arcuate to conform substantially to the curvature of said translucent viewing screen and said array of magnifying members and is movable in an arcuate path adjacent said magnifying members to move to register said rectilinear line indicia on said object member in longitudinally extending tangential contiguous relationship with said magnifying means in a predetermined desired manner to produce a desired display in magnified form through said cylindrical viewing screen.

5. A device of the character set forth in claim 4 wherein said object member is cylindrical in form and has a plurality of sets of said rectilinear line indicia disposed thereon arranged to register with said magnifying members in said longitudinal tangential contiguous relationship to produce a desired display in varied form through said viewing screen as said object member is rotated about its longitudinal axis.

6. A device of the character set forth in claim 5 wherein the cylindrical inner object member is removable and replaceable without disturbing the viewing screen and magnifying members to provide a different array of indicia to vary the images produced.

7. A device of the character set forth in claim 1 wherein said magnifying members are glass rods.

8. A device of the character set forth in claim 1 wherein the magnifying members are plastic rods.

9. A device of the character set forth in claim 1 wherein the object member comprises an elongate film and said rectilinear lines of said indicia are arrayed thereon in predetermined relationship and movable transversely with respect to the longitudinal axes of said magnifying members to produce a desired series of images on said viewing screen.

10. A device of the character set forth in claim 9 wherein a plurality of film strips having rectilinear line indicia arrayed thereon are disposed in side by side relationship adjacent said magnifying members for simultaneously producing a plurality of images on the viewing screen.

11. A movable indicia signal or sign including: a translucent viewing screen having smooth front and rear surfaces; a plurality of elongate uniformly sized side by side cylindrical optical magnifying members of uniform full circular cross-section secured in parallel longitudinal tangential array with respect to each other contiguous the rear surface of said viewing screen, an object member having a configuration conforming to that of the viewing screen and having indicia consisting solely of a plurality of parallel spaced rectilinear lines of predetermined lengths thereon arrayed in a predetermined plurality of parallel intermeshed sets in each of which sets the lines of said set are spaced to correspond to the spacing of the longitudinal axes of said side by side cylindrical optical magnifying members and disposed to be moved to position said lines of said set to register with corresponding ones of said magnifying members in said longitudinally tangentially contiguous manner to said magnifying members on the side thereof opposite said viewing screen to produce an image of each of said lines of said set the length of said

line and the full diametrical width of the magnifying member to which it is contiguous to produce an image of each such line of said set on said viewing screen in segments forming a desired complete figure or picture display on said viewing screen when all such segments are displayed on said screen, said object member being movable with respect to said magnifying members to move said sets of parallel lines of said indicia at right angles to the longitudinal axes of said magnifying members to dispose sequential sets of said spaced rectilinear lines sequentially in longitudinal tangential contiguous registry with said magnifying members to produce a plurality of sequential images forming varying sequential figures or pictures on said viewing screen; and means for illuminating said object member to produce said images on said screen.

12. A movable indicia signal or sign including: a plurality of elongate side by side optical magnifying members each having a complete full circular cross-sectional configuration disposed in side by side parallel

longitudinally contiguous array; an object member having indicia consisting solely of parallel rectilinear lines thereon disposed adjacent said magnifying members on one side thereof; said rectilinear lines being arrayed on said object member in predetermined parallel laterally spaced positions corresponding to the spacing of the longitudinal axes of said magnifying members and disposed to be moved with said object member at right angles to said longitudinal axes of said magnifying members to positions in which said lines are disposed to register with predetermined ones of said magnifying members in a longitudinally extending tangential contiguous manner to produce an image of each of said lines the length of said lines and the full diametrical width of the magnifying member with which it is incon-
tiguous registry to produce a desired display of such images on the side of said array of magnifying members opposite said object member; and means for illuminating said indicia to produce said display.

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