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COMPLETE SPECIFICATION

Stereoscopic Viewing Device

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I, WILHELM BILLER GRUBER, of 501 Raleigh Building, Portland, State of Oregon, United States of America, a citizen of the United States of America, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to stereoscopic viewing devices.

According to the present invention I provide a stereoscopic viewing device of the type in which a picture carrier may be selectively positioned to bring a pair of stereoscopically associated pictures in front of viewer openings, including as carrier a plate constructed as a circular member, the feeding mechanism for the carrier being adapted to impart to the plate a partial rotary movement of sufficient extent to bring successively the pairs of stereoscopic pictures to operative position with respect to the viewing openings.

Reference will now be made to the accompanying drawings in which:—

Fig. 1 is a fragmentary perspective view showing two motion picture films adapted to be run through a stereoscopic camera.

Fig. 2 is a view similar to Fig. 1 but showing the films cut up into their respective squares.

Fig. 3 is a front elevation of a film carrying disk.

Fig. 4 is an enlarged section taken along the line 4-4 in Fig. 3.

Fig. 5 is a front elevation of a viewing device whereby a pair of coordinated views may be viewed and the corresponding title may be displayed therewith.

Fig. 6 is a front elevation of the viewing device showing the cover swung to an open position.

Fig. 7 is an enlarged fragmentary section taken along the line 7-7 in Fig. 5.

Fig. 8 is an enlarged fragmentary section taken along the line 8-8 in Fig. 6.

Fig. 9 is an enlarged section taken along the line 9-9 in Fig. 6.

Fig. 10 is a reduced section taken along the line 10-10 in Fig. 5.

[Price 1/-]

Similar numerals refer to similar parts throughout the several views.

Referring in detail to the drawing there is shown a pair of film strips 10 and 11 which are assumed to have been exposed in a stereoscopic camera of a type in which the frames 12 and 13 form a stereoscopic pair and the frames 14 and 15 form another stereoscopic pair et cetera down to the frames 24 and 25.

In Fig. 2 the strips 10 and 11 are cut into their individual frames.

Referring particularly to the viewing device, same will be seen to consist of a hinged casing comprised of the parts 26 and 27 which are joined by means of the hinge 28 and held in a closed position by means of a latch 29. The case portions 26, 27 are each provided with a pair of openings 30 and 31 equi-distant from a central pivot 32 on which is pivotally mounted a transport lever 33 which is capable of rocking to and fro in a recess 34.

The transport lever 33 is in the form of a spring blade and has a laterally projecting point 35 disposed thereon. The transport lever 33 is urged in one direction by means of a spring 36 which is attached to the transport lever 33 and to the case 26.

Mounted on the pivot 32 is a carrier comprising disks 37 within whose apertures 38 are secured the transparencies illustrated in Fig. 2.

It will be noted in Fig. 3 that the transparency 12 is diametrically opposite the transparency 13 and that the transparency 14 is diametrically opposite the transparency 15 et cetera around the disk 37. In order to illustrate the device I have shown letters from "A" to "G" in the transparencies showing the letter in the relative attitude which the picture would occupy in the transparency.

It will be noted that in Fig. 3, for example, at the left side of the disk 37 the letter "A" is upright in the transparency 12. The letter "E" is inverted in the transparency 20 and the letter "B" is upright in the transparency 14, etc. That is, the letters do not follow each other in alphabetical succession but alternate as shown and at the same time they are relatively inverted.

It will also be noted that the letters "A" to "G" inclusive are also shown in segments 39 just inside of the apertures 38. A window 40 is formed in the member 27 to register with the letter "A" in the segment 39 when the letters "A" or the corresponding transparencies 12 and 13 appear in the openings 30 and 31.

While I have shown letters from "A" to "G" in the segments 39, it must be understood that this is for the purpose of illustration only. In actual practice the space occupied by the letters is used for printed matter, namely, the titles of the various pictures. For example, when the letter "A" appears in the window 40, the corresponding transparencies 12 and 13 would appear in their respective openings making it possible for the viewer to ascertain easily the correct title of the view. It will be noted that use is made of the large inner portion of the disk which would otherwise be useless.

Over the openings 30 and 31 in the case portion 27 are placed eye pieces 41 and 42, each of which is provided with a lens 43, and ground glass 44 is provided in the openings in case portion 26.

The disk 37 is provided with the index holes 45 which can register with the point 35 on the laterally yieldable transport lever 33. A spring pawl 46 is mounted on the member 26 and its point 47 can also engage the holes 45 and prevent the backward rotation of the disk 37.

The operation of the device is as follows:

Assuming that the transparencies have been made by exposing the stereoscopic films of small dimension and then severing them as shown in Fig. 2 and then mounting the pairs of transparencies in alternate apertures 38, the pictures may now be viewed by simply operating the transport lever 33 which is spring returned and at each movement causes the disk 37 to revolve through two of its transparency spacings. It is desirable that the diameter of the circle formed by the centres of the aperture spacings 38 should approximate the average separation of a person's eyes, namely, 65 millimeters. Obviously, this can be varied considerably by the use of binocular lenses.

As shown, the device is capable of presenting seven pairs of views in succession by moving the disk 37 two spaces at each operation of the lever 33, the disc being thus brought back to the point of the beginning of the series without displaying an inverted image.

Obviously, the details of this invention may be varied greatly without departing from the scope thereof.

Having now particularly described and ascertained the nature of my said inven-

tion and in what manner the same is to be performed, I declare, that what I claim is:—

1: A stereoscopic viewing device of the type in which a picture carrier may be selectively positioned to bring a pair of stereoscopically associated pictures in front of viewer openings, including as carrier a plate constructed as a circular member, the feeding mechanism for the carrier being adapted to impart to the plate a partial rotary movement of sufficient extent to bring successively the pairs of stereoscopic pictures to operative position with respect to the viewing openings.

2. A stereoscopic viewing device as set forth in claim 1, in which the circular carrier is provided with an odd number of pairs of openings, the pictures of each pair being arranged in diametrically opposite openings on the carrier and the arrangement of the pictures and the extent of each rotary feeding movement of the carrier being such that repeated rotary movements will successively bring the entire series of stereoscopic pairs of pictures to viewing position.

3. A stereoscopic viewing device as set forth in claims 1 and 2, including a circular casing with which the rotatable carrier and a stationary plate provided with viewing openings are associated, the rotary carrier being rotatable about the axis of the carrier.

4. A stereoscopic viewing device as set forth in claim 1, including on the picture carrier a field adapted for the insertion of a title, and including in the plate provided with the viewing openings another opening through which the field carrying the title can be observed when the pair of stereoscopic pictures to which said title belongs is in viewing position.

5. A stereoscopic viewing device as set forth in claim 1, including as means for moving the carrier a spring controlled lever adapted to engage by means of a projection an opening in the carrier, the projection being such that upon movement of said lever the carrier is advanced, while upon release of said lever the lever is returned by the spring to its initial position without affecting the position of the carrier.

6. A stereoscopic viewing device, as set forth in claims 1, 4 and 5, in which the lever is mounted to swing about the axis of the carrier, the projection of the lever being shaped to enter an opening in the carrier when the lever is moved in one direction and to slide over the carrier when the lever under the control of the spring is moved in the opposite direction.

7. A stereoscopic viewing device, as set

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forth in claims 1 and 3, including in the casing in which the carrier is movably supported, a yielding holding device adapted to cooperate with openings provided in the carrier for yieldingly holding the carrier in a position in which a pair of stereoscopically associated pictures thereon is in display position in the casing.

stantially as described and shown, and for the purpose set forth,

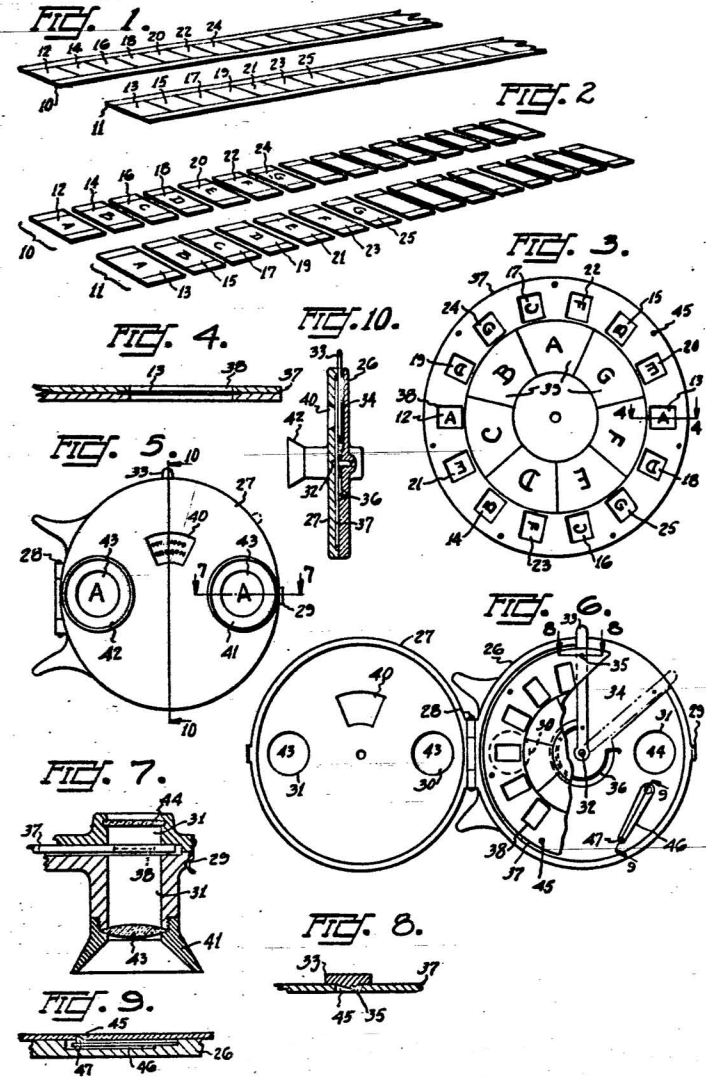
Dated this 3rd day of February, 1940.

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*[This Drawing is a reproduction of the Original on a reduced scale.]*



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