

Sept. 17, 1935.

J. H. HARLOW

2,014,527

STEREOSCOPE

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Fig. 1

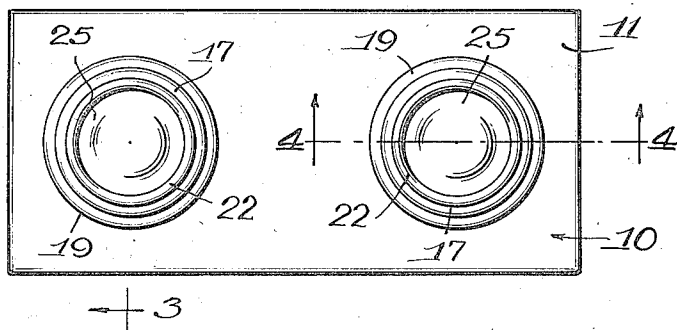


Fig. 2

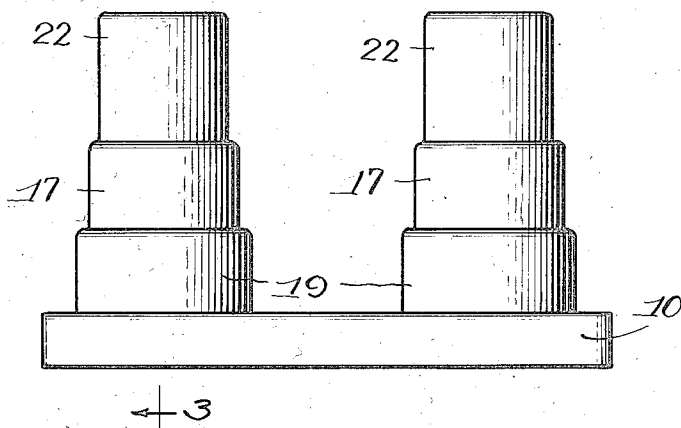


Fig. 3

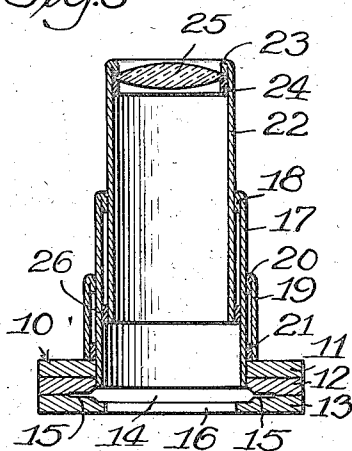


Fig. 4

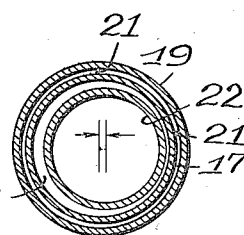
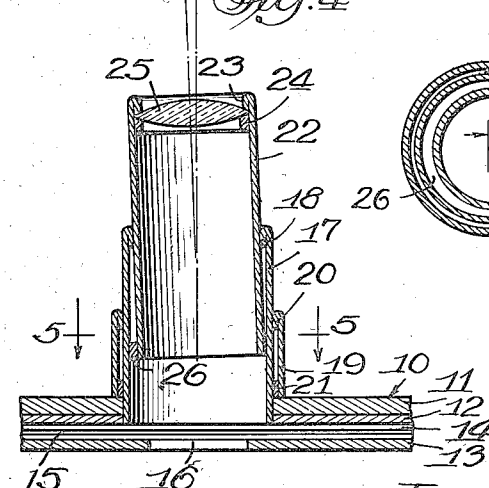


Fig. 5

Witness:
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UNITED STATES PATENT OFFICE

2,014,527

STEREOSCOPE

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Application December 10, 1934, Serial No. 756,724

3 Claims. (Cl. 88—29)

My present invention relates to improvements in stereoscopes or apparatus for viewing stereoscopic prints.

It has been found to be highly economical both in material, space and expense to print stereoscopic views upon strips of film such as are employed in motion pictures, and my present object is to produce a viewing apparatus for views so printed on strips of film which would be light, strong and dependable, but which, at the same time, could be produced to sell at an attractively low price and would permit the minimum number of necessary adjustments.

I have attained the foregoing object by means of the structure illustrated in the accompanying drawing, in which—

Fig. 1 is a plan, or a view looking directly down upon the base, of a viewing apparatus built in accordance with my present invention.

Fig. 2 is a side view or elevation of the structure shown in Fig. 1.

Fig. 3 is a section on line 3—3 of Fig. 2.

Fig. 4 is a section on line 4—4 of Fig. 1.

Fig. 5 is a section on line 5—5 of Fig. 4.

Similar reference characters refer to similar parts throughout the respective views.

My apparatus, with the exception of the lenses, may be made wholly from suitable grades of paper or cardboard, or any other like material, the several tubes, hereafter specifically described, being spirally wound and similar to the tubes of paper shot gun shells.

The base 10, preferably of rectangular outline, may advantageously consist of three layers, 11, 12 and 13, of what is known in the trade as one hundred point stock. The contacting faces of layers 12 and 13 are stamped so that when they are brought and secured together they provide a central relatively wide channel 14 in which the film may move without touching the surface thereof and reduced ends 15 in which the edges of the film will move with sufficient friction to maintain them in position when they are not being adjusted.

At suitably spaced distances, that is, with centers spaced the average pupillary distance, are provided windows or fenestra 16 of suitable dimensions, which, by reference to Figs. 1, 2, 3 and 4, will be seen to be somewhat taller or longer than broad. Opposite the windows or fenestra 16 in the strip 13, the strip 11 and the portion of the strip 12 lying above the channel 14 are circularly perforated to receive the lower end of the intermediate tube 17. The top of the intermediate tube 17 is crimped over at 18 in the same manner

that the outer ends of shot gun shells are crimped over the tops of the wads on the tops of the charges in the shells. While the intermediate tube 17 may be quite strongly secured to the layers 11 and 12 by the use of a suitable glue, I have supplemented the assembly of the intermediate tube 17 with the base by a short length of outer tubing 19, the top of which is crimped over at 20 and to the base of which is glued a ring 21 of tubing, which ring is of equal thickness with the turned over crimped end 20. Such a construction secures not only sufficient strength for normal use, but is of sufficient strength to withstand considerable abuse.

Introduced into the intermediate tube 17, before it is assembled, is an inner tube 22 of sufficient diameter to snugly fit within the crimped-over upper end 18 of the intermediate tube 17. The upper end of the inner tube 22 is crimped over at 23 and held between the inner end of the crimped over portion and a ring of tubing 24 is the lens 25.

About the lower end of the inner tubing 22 is secured a ring of tubing 26 of sufficient diameter to have a moving fit with the interior of the intermediate tube 17, so that the inner tube 22 may telescope within the intermediate tube 17 to secure a focalization of the lenses 25 upon the views suitable to the eyes of the person who may be using the instrument.

While the outside of the ring 26, which cooperates with the inside of the intermediate tube 17, and the inside of this ring, which is secured to the lower end of the inner tube 22, are both round they are eccentric, as most clearly shown in Fig. 5, and this arrangement is for the purpose of permitting the separation of the lenses 25 to be varied to accommodate different widths of pupillary distance by a rotation of the inner tubes 22.

This structure may be given a handsome and striking appearance by the use of a proper selection of covering paper, of which there are several kinds and grades upon the market, or varnish, or, if desired, both covering paper and varnish may be used conjointly. The apparatus is strong and light and may be made so as to be sold at a profit at an attractive price, and will afford the necessary adjustments for adapting it to the use of most eyes.

Having described my invention what I claim is new and desire to secure by Letters Patent is:

1. A stereoscopic viewing apparatus comprising a base having apertures therein, the centers of which are spaced an average pupillary distance apart, said base consisting of a plurality of layers,

the adjacent faces of two of which layers being longitudinally depressed so that when said layers are joined together there will be provided a relatively wide film channel and relatively narrow edge channels for slidingly and frictionally engaging the edges of a strip of film, tubes mounted upon and carried by said base opposite the apertures therein and lenses mounted in said tubes.

2. A stereoscopic viewing apparatus comprising
10 a base having apertures therein, the centers of which are spaced an average pupillary distance apart, said base having longitudinally thereof a film receiving channel therein formed to slidingly and frictionally engage the edge of a strip
15 of film disposed in said channel, tubes mounted upon and carried by said base opposite the apertures therein, said tubes consisting of a pair of spirally wound paper cylinders, the unattached ends whereof are inwardly crimped, and a pair of
20 spirally wound paper cylinders telescopically mounted within said first mentioned cylinders, one end of which telescopically mounted cylinders

is provided with an outwardly extending annulus to engage the inwardly crimped ends of the cylinder with which it co-operates and the other end of said cylinders being inwardly crimped and lenses mounted against the inwardly crimped ends
5 of said telescopic cylinders.

3. A stereoscopic viewing apparatus comprising a base having apertures therein, the centers of which are spaced an average pupillary distance apart, said base having longitudinally thereof a
10 film receiving channel therein formed to slidingly and frictionally engage the edge of a strip of film disposed in said channel, tubes mounted upon and carried by said base opposite the apertures therein, a pair of cylinders telescopically
15 mounted within said first mentioned tubes, one end of which telescopically mounted cylinders is provided with an outwardly extending eccentric annulus to engage the tubes with which it co-operates and lenses mounted in the ends of said
20 telescopic cylinders.

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