Nov. 18, 1958 I. B. KAHN 2,860,544

CUING DEVICE

Filed June 8, 1955

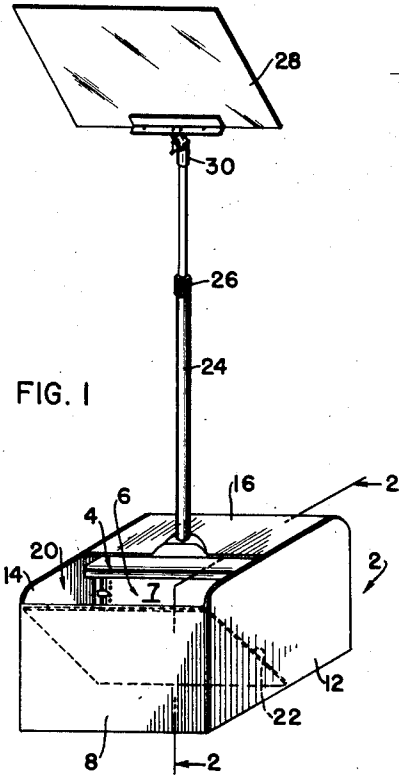


FIG. 1

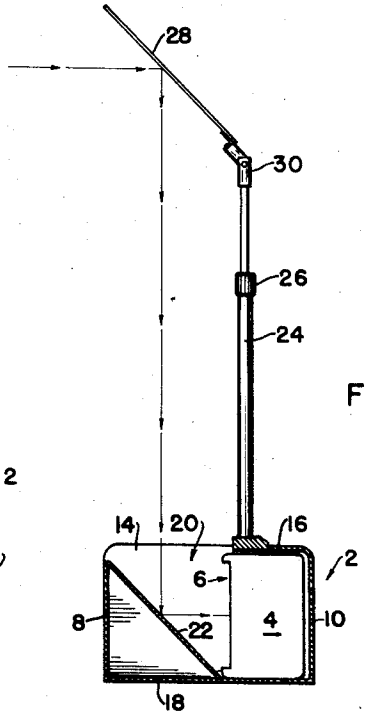


FIG. 2

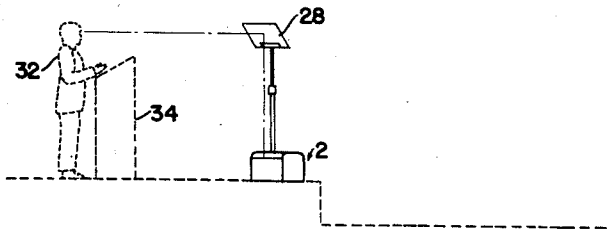
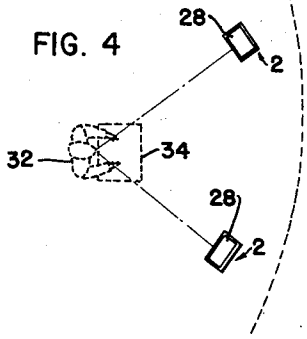


FIG. 3

FIG. 4



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United States Patent Office 2,860,544
Patented Nov. 18, 1958

2,860,544

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Application June 8, 1955, Serial No. 514,080

1 Claim. (Cl. 88—74)

This invention relates to instructional apparatus for the presentation of a script or other graphic data to a speaker, and more particularly to the provision of means whereby a speaker's lines may be presented in a manner visible to him without interfering with the audience's view of the speaker and without requiring the speaker to look elsewhere than at the audience he is addressing.

Cuing devices have been proposed heretofore for the presentation of a speaker's lines to him. In one of these devices, disclosed in the copending application Serial No. 220,506 assigned to the assignee hereof, now Patent No. 2,765,552 issued October 9, 1956, a speaker's lines or other graphic indications for him are recorded on a roll of paper or the like for presentation in a controlled sequence at an aperture in a housing past which the paper of the roll is moved. In other devices for the cuing of actors and speakers the material to be presented to the speaker is recorded on a succession of cards or slides or on film, to be presented in any case at an opaque viewing area. With all such systems the device must be positioned to lie within the speaker's field of view. For minimum interference with the speaker's communication with his audience the device should be positioned so as to demand as little as possible that the speaker divert his eyes from the audience he is addressing. At the same time it is for obvious reasons undesirable that the device be positioned directly between the speaker and his audience, to whom the visible obstruction in their view of the speaker produced by the device as so positioned is an undesirable distraction from the normal relation between speaker and audience.

The present invention provides optical projection apparatus whereby the speaker's lines may be made visible to him in positions such that he can read them without taking his eyes from the audience, and such that the audience can at all times observe the speaker.

A preferred embodiment of the invention is shown in the accompanying drawings in which—

Fig. 1 is a perspective view of the embodiment;

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

Fig. 3 is a view in three-quarters elevation of the embodiment of Fig. 1 and Fig. 2, illustrating the relation between the speaker and his audience permitted by the invention; and

Fig. 4 is a plan view showing two of the devices of the invention as used by a speaker.

Referring to Figs. 1 and 2, a casing or housing **2** contains a cuing device **4** having a generally rectangular display area indicated at **6** at which a record of the speaker's lines or other memoranda for him are presented, advantageously by means of a script roll having a visible portion **7** in the display area **6**. The display area **6** is disposed in a vertical plane when the casing **2** is supported, as customarily intended, on a floor, or dais, or stage.

The device **4** may be of the type disclosed in the copending application above identified in which a continuous roll or strip of paper or the like is caused to pass from supply to take-up rolls, the portion between the two rolls occupying the plane viewing area **6**. Other forms of cuing device than that described in the above-identified application may of course be employed for the presentation within the housing **2** at an area such as the area **6** of the material which is to be made visible to the speaker.

The housing **2** serves as a base for the entire image projection apparatus of the invention. It includes advantageously front, rear, lateral, top and bottom walls **8**, **10**, **12**, **14**, **16** and **18** as shown. The top wall **16**, if provided, includes an aperture **20** preferably of substantially at least the same dimensions as the display area **6** and through which light rays from all parts of the display area may pass out of the housing. Within the housing a plane mirror **22** is positioned adjacent the cuing device **4** and its display area **6**, with the plane of the mirror inclined at substantially 45° to the plane of the area **6** and with its plane intersecting the plane **6** along a horizontal line parallel to the lines of the script material on the script roll **7**. With this arrangement light departing normally from the display area **6** will be reflected by the mirror **22** through 90°, out through the aperture **20** and into substantially vertical paths. The mirror **22** possesses in the horizontal direction, i. e. parallel to its intersection with the plane of the area **6**, a dimension substantially equal to that of the area **6** parallel to that line of intersection. In the perpendicular direction of its plane the mirror **22** possesses a dimension approximately the square root of two times the dimension of the display area **6** which is perpendicular to the intersection of the mirror plane with that of the display area.

The casing has affixed thereto on its top wall **16** an upwardly extending stand or support member **24**, advantageously of telescoping form, including means as indicated at **26** for adjusting the effective height thereof.

To the upper end of the support **24** there is affixed a second plane mirror **28**, of rectangular shape and having dimensions as large or larger than those of the mirror **22**. The mirror **28** is supported in a fitting **30** coupled to the end of support **24** at an adjustably fixable joint whereby the angular relation of the mirror **28** to the vertical can be adjusted. Preferably the adjustment is such as to incline the mirror **28** at substantially 45° to the horizontal so that the mirrors **22** and **28** are parallel. The mirror **28** is partially reflecting so as to direct to the left in Fig. 2 the images formed by the mirror **22** of objects in the script plane **6**. Thus the images of objects in the display area **6** formed by mirrors **22** and **28** together which are observable from positions to the left of the projection apparatus as illustrated in Fig. 2 are fully erect. Mirror **28** is however partly transparent in order that a speaker may be observed unimpeded therethrough by his audience. The cuing device **4** may advantageously include means for illuminating the script plane in order that images of sufficient brilliance be formed.

Fig. 3 illustrates how a speaker indicated at **32** is enabled by the image projection apparatus of the invention to read continuously the material presented at the display area of the cuing device in housing **2** while maintaining his line of vision at eye level, directed toward an audience assumed to be located at the right in Fig. 3. This may be contrasted with the limitations imposed on the speaker's head posture and freedom of movement if he is to direct his attention to written or printed material disposed on a lectern **34** in front of him.

Fig. 4 illustrates how a plurality of image projection devices according to the invention may be associated to permit a speaker to read his text at eye level while looking straight ahead of him at his audience in more than one direction. Separate image projection devices

according to the invention are disposed in front of the speaker in angular relation to each other so that the same material is made visible to the speaker over a wide range of horizontal directions of view adopted by him. In accordance with known methods the cuing devices 4 of these units may be constructed and operated to present synchronously the same portions of the recorded material.

I claim:

In combination, a cuing device adapted to present changing graphic data in a delimited plane area, a housing having lateral, top, bottom, front and rear walls, said top wall having an aperture therein of at least the same dimensions as said area, a stand of adjustable height arranged on said top wall, a first mirror disposed within said housing adjacent said area with its plane inclined at substantially 45° to the plane of said area, said mirror having parallel to the intersection of its plane with the plane of said area a first dimension substantially equal to the dimension of said area parallel to said intersection, said mirror further having perpendicular to its said first

dimension a dimension of at least the square root of two times the dimension of said area perpendicular to said intersection, and a second mirror affixed at the end of said stand remote from said housing, said second mirror having dimensions at least as great as the dimensions of said first mirror and being arranged with its plane substantially parallel to the plane of said first mirror, said second mirror being at least partially transparent.

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