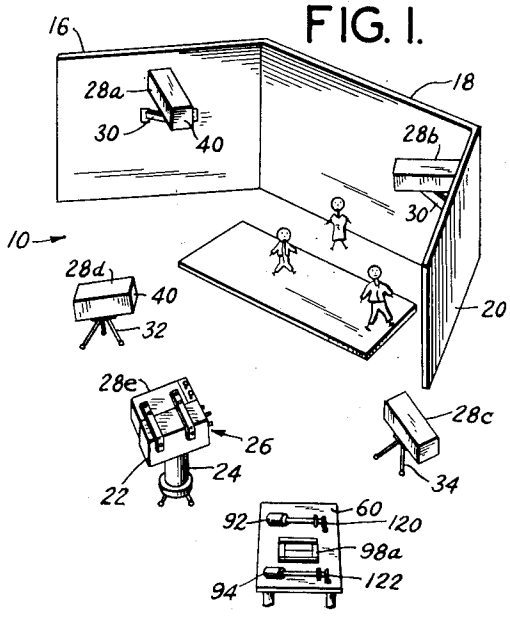
Dec. 14, 1954 R. H. SEGAL ET AL 2,696,753

PROJECTING SCRIPT ROLL PROMPTING APPARATUS FOR ACTORS

Filed April 14, 1950 3 Sheets-Sheet 1

FIG. 1.



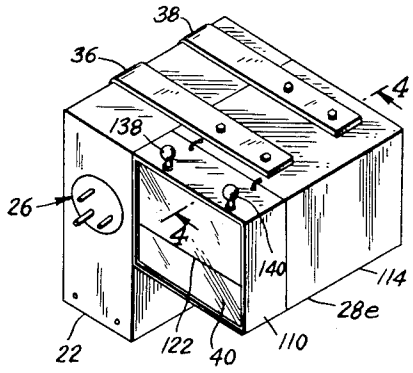
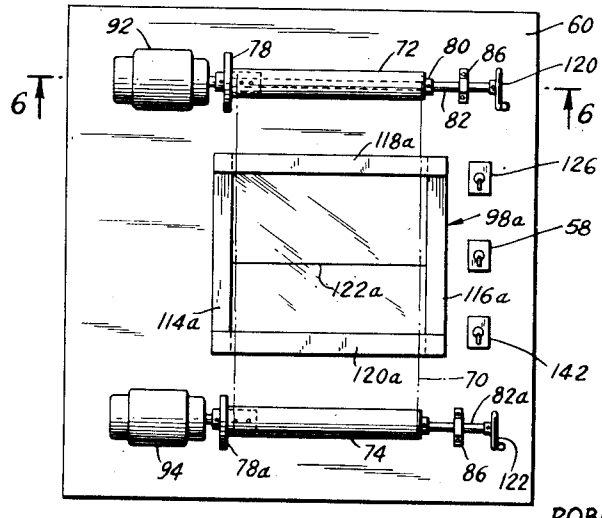


FIG. 2.

FIG. 3.



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PROJECTING SCRIPT ROLL PROMPTING APPARATUS FOR ACTORS

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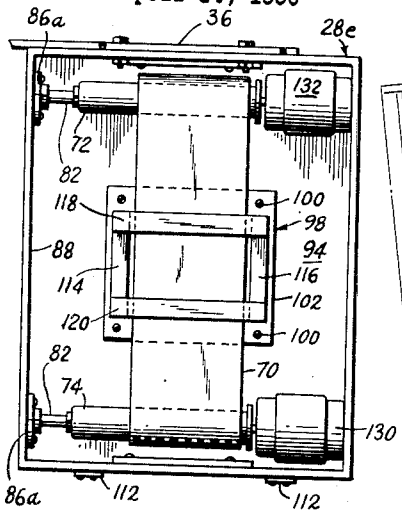


FIG. 5.

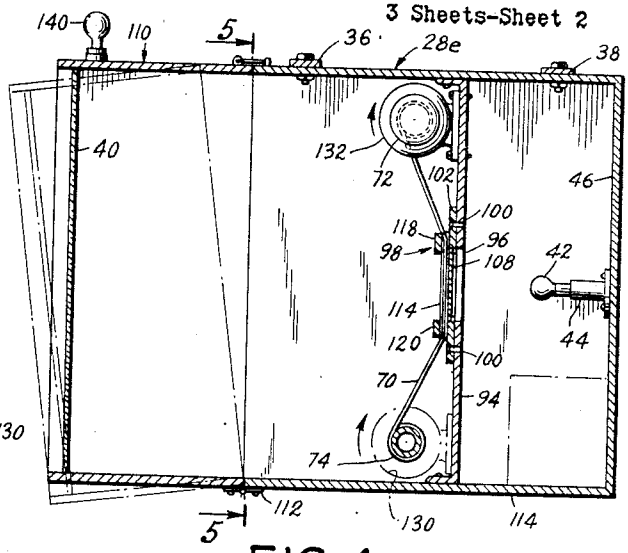


FIG. 4.

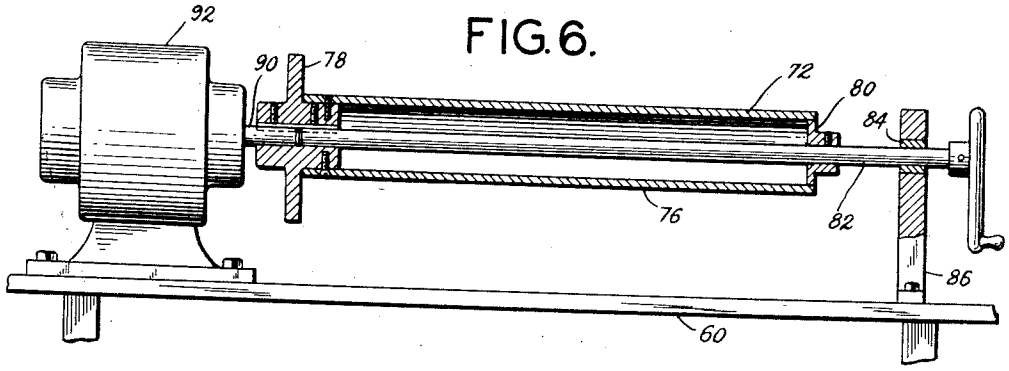


FIG. 6.

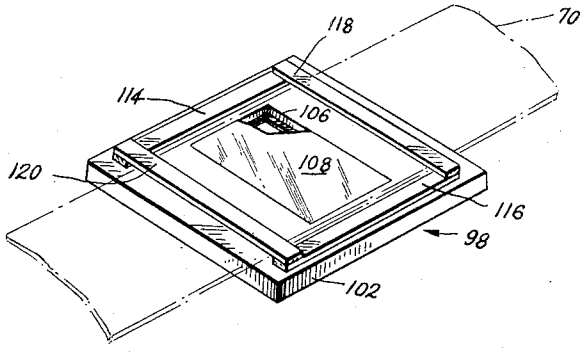


FIG. 7.

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FIG. 8.

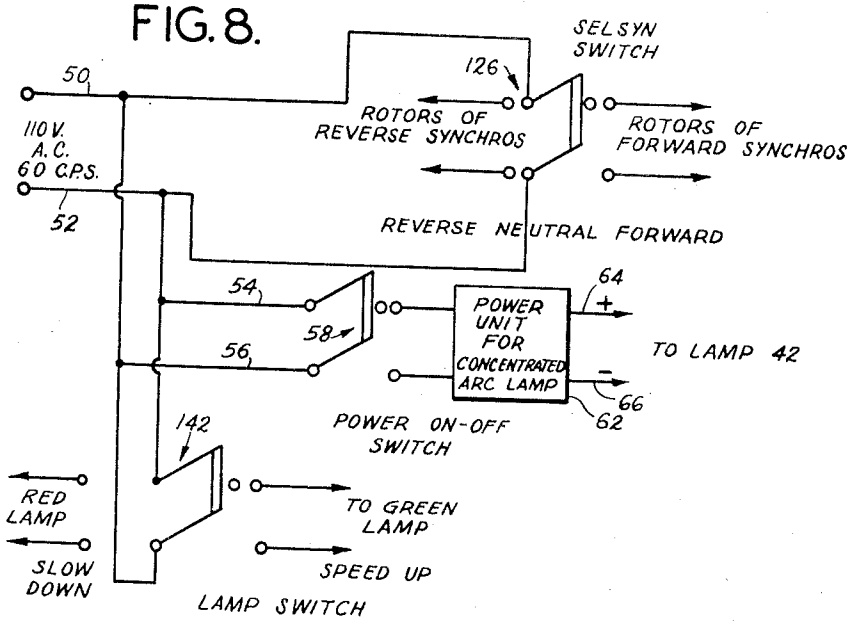
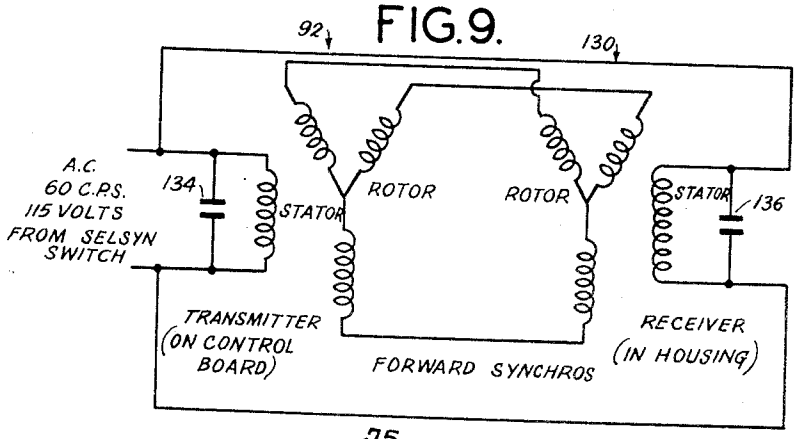


FIG. 9.



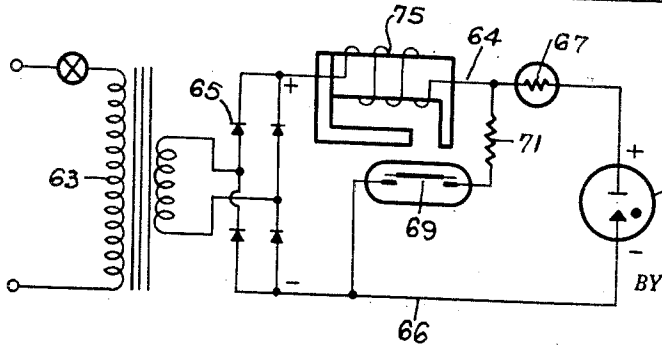


FIG. 10.

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2,696,753

PROJECTING SCRIPT ROLL PROMPTING APPARATUS FOR ACTORS

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Application April 14, 1950, Serial No. 156,004

2 Claims. (Cl. 88—28)

This invention relates to prompting devices for actors, announcers, speakers whereby the lines or script are visually displayed in convenient locations for aiding the actor or speaker in saying his lines.

An object of the invention is to provide an improved and novel form of prompting devices which is of particular use in connection with television or newsreel productions, in which there is little time to prepare and to engage in long rehearsals prior to the production itself.

Another object of the invention is to provide a novel prompting device including several prompting aids disposed at several locations about the stage or set, out of range of the cameras in use, and carrying in each of such prompting aids a copy of the script, suitably enlarged so as to be seen easily by the actor, and arranged to be moved as desired by the production director as the words are spoken.

A further object of the invention is to provide a novel prompting aid in which the written material is printed upon a roll of film or any other suitable transparent material adapted to be unrolled therefrom and onto another roll, while passing before a light beam from a high intensity source of light, the enlarged image being cast upon a translucent screen in the view of the actor.

Still another object of the invention is to provide a novel prompting aid of the type described, in which the script is projected upon a viewing screen from a film, and in which novel means are provided so that special additional directions to the actor may be marked upon the film at any time, to be projected upon the viewing screen, thus avoiding the need for oral and audible rendering of such instructions.

A further object of the invention is to provide a script prompting aid device in which the scrip is movably displayed upon several script aid devices simultaneously, from different angles relative to the actors on the stage, and in which the director, by suitably turning his script traverse mechanism causes the other script aid devices to move simultaneously therewith, and in which he may also reverse the movement of the script if needed.

Other objects and advantages of the invention will become apparent from the following description of a preferred embodiment thereof as illustrated in the accompanying drawings, and in which,

Figure 1 is a perspective view of a stage, with actors, and showing a television camera and several script aids disposed about the stage for displaying the script to the actors, and showing the director's script aid.

Figure 2 is a perspective view showing the television camera, with a script aid mounted thereon.

Figure 3 is a top plan view of the director's script aid.

Figure 4 is a sectional elevation taken on plane 4—4 of Figure 2, through the script aid itself.

Figure 5 is a sectional elevation taken on plane 5—5 of Figure 4.

Figure 6 is a sectional elevation taken on plane 6—6 of Figure 3.

Figure 7 is a perspective view of a film guide employed in the device of Figure 5, showing the film passing over its backing plate.

Figure 8 is a schematic diagram of the circuits showing how power is supplied through the switches on the director's script aid, to the various electric devices used.

Figure 9 is a schematic diagram of the connections of a pair of selsyns, that is, the transmitter and the receiver, as connected to the power lines.

Figure 10 is a wiring diagram showing the operation of the concentrated point source arc lamp.

It has been found that the production of television plays and shows is beset with great difficulties particularly since the material is frequently used only once and then discarded. As a result, the actors find it quite difficult to memorize their lines, when they have only a short time in which to do so, whereas in the usual stage productions, the same play is rendered over and over again, each night for several weeks or months, and intense memorization by the actors is more readily undertaken.

The present invention provides a solution to this problem, by setting up a number of script aids about the stage setting, but just out of camera range of the television camera. The script is displayed in enlarged form upon these script aids, and is printed upon a film roll, which is turned under the control of the program director as the play progresses. Thus, the actors, should they momentarily forget their lines, can merely look generally in any direction on the stage and will see, clearly enlarged, the exact lines which are supposed to be spoken at that precise time. A similar script aid may be mounted upon the televison camera itself, to similarly aid the actor when directly addressing the television audience, or for a close-up view.

In order to understand clearly the nature of the invention, and the best means for carrying it out, reference may now be had to the drawings, in which like numerals denote similar parts throughout the several views.

As seen in Figure 1, there is a stage **10** with actors shown thereon, and having walls or scenery partitions **16**, **18** and **20**. A television camera is shown at **22**, being mounted upon a rotatable stand **24**, and having turret lenses **26**. A number of script aids **28***a*, **28***b*, **28***c*, and **28***d* are shown disposed about the stage set, those at **28***a* and **28***b* being supported upon brackets **30** upon the set walls, but out of the camera range, so as not to be visible thereto.

The script aids **28***d* and **28***c* are supported upon tripods **32** and **34**, and a fifth script aid **28***e* is mounted directly upon the side of the television camera **22**, by means of brackets **36** and **38**. All the script aids **28***a*, *b*, *c*, *d* and *e* are identical in construction, and each has a viewing screen **40** made of ground glass, ground plastic sheeting, or other suitable material upon which the enlarged image of the script may be cast, by means of the point light source lamp **42**. The outer surface of the viewing screen **40** should be non-glossy, so that it does not readily reflect the intense lights used for illuminating the stage set, which reflections would otherwise prevent the actors from seeing the enlarged script shown thereon.

The concentrated-arc lamp **42**, which is mounted in the socket **44** on the wall **46** of the script aid **28***e* and of course also in the other script aids **28***a*, *b*, *c* and *d*, since all the script aids are identical in construction, is a new type of light source in which permanent electrodes are are sealed into a glass bulb filled with an inert gas such as argon. The source of the light is a small incandescent spot which forms on a specially prepared refractory oxide cathode. When the arc is established, the oxide surface is raised to its melting temperature, and a brilliant white light is emitted by the molten surface and a cloud of vaporized material which extends for a few thousandths of an inch from the cathode. This vapor returns to the cathode, thus renewing the surface. The lamps are unique because, in various sizes, their light emitting spot may be as small as 0.003 inch or as large as one-tenth of an inch in diameter, and with brightnesses up to 65,000 candles per square inch. The lamps are useful for narrow-beam and high-intensity applications, and in small sizes the lamps are a close approach to a point source.

They operate on direct current, or from well-filtered rectified alternating current, and are started with a high voltage which breaks down the gap in the lamps, and are run with sufficient resistance ballast in series to limit their current. Such lamps are manufactured by the Western Union Telegraph Company of 60 Hudson Street, New York city, and are further described in their Engineering Bulletin 38B. Referring to Figure 8, it is seen

that alternating current from the input power lines **50** and **52** is conducted by wires **54** and **56** through switch **58** on the director's control panel **60**, to the power unit **62** for the concentrated arc lamp **42**, so that rectified direct current is supplied to the arc lamp **42**, through the wires **64** and **66**.

Inside the power unit box **62**, as shown in Figure 10, are disposed a step down transformer **63** feeding into rectifiers **65**, and across the output leads **64** and **66** is connected the concentrated arc lamp with a series ballast resistor **67**. For starting the lamp, a normally closed switch in series with a ballast resistor **71** is connected in parallel with the concentrated arc lamp **42** and its series ballast resistor **67**, the switch blade being subject to magnetic attraction. An iron core inductance **75** having an open small air gap is connected in series with one of the direct current wires between the rectifier output and the switch, so that when the current is turned on, direct current flows through the inductor, the switch and its resistor, generating a magnetic field across the air gap in the iron core of the inductor, which attracts the switch blade, opening the switch and interrupting the current. When the current is interrupted, an inductive pulse, generated across the inductor, breaks down the arc gap in the concentrated arc lamp, and the lamp becomes operative, the lamp current flowing through the inductor holding the switch in open position.

The use of the concentrated point source arc lamp **42** makes it unnecessary to employ lenses to focus the image of the script imprinted on the script film **70**, upon the viewing screen **40**. The script film **70** is rolled upon the upper spindle **72** of each script aid and the director's script aid also, which is shown in sectional detail in Figure 6, and is unrolled therefrom, onto the lower spindle **74**, shown in Figures 3, 4 and 5. The spindles, which include hollow cylinders **76** secured upon hubs **78** and **80** for rotation therewith, are in turn carried upon shafts **82** for rotation therewith. From Figure 6 it is seen that the shaft **82** is journaled at its right end in a bearing **84** formed in a supporting bracket **86** carried by the base **60** for Figure 6, or carried by the end wall **88** in Figures 4 and 5, and shown at **86***a* in those views.

At the other end, as seen again in Figure 6, the shaft **90** of the reverse selsyn transmitter **92** extends into the hub **78** and is secured therein by a set screw, so as to support the same for rotation therewith. The selsyn transmitter for forward drive is shown at **94**, and it is mounted on the base **60** just like the one shown in Figure 6, so that, for illustrative purposes, the sectional view of Figure 6, shown as taken on plane **6—6** of Figure 3, that is through the upper selsyn and the roller **72**, but may also be understood as illustrating the construction of the lower selsyn and associated rollers and shafts.

It is seen that both the left hand hubs **78** and **78***a* of Figure 3 project radially in disc-like fashion, to substantially greater diameter than that of the cylinders **72** upon which the script film **70** is wound. This radial portion acts as a stop at the left portion of each cylinder roll **72** and **74**. The film **70** may be of cellulose acetate, with the script wording imprinted thereon.

In the wall **94** of the housing shown in Figures 4 and 5, an opening is formed at **96** to allow the light from the lamp **42** to project therethrough and through the film **70**, and onto the viewing screen **40**. A film guiding frame **98**, shown in perspective in Figure 7, is placed over the left side of this opening **96** as seen in Figure 4, and secured thereto by means of screws **100**. The film guiding frame **98** includes a frame base **102** with an opening **106** formed therein to match the opening **16** in the wall **94**.

A transparent backing plate **108** of glass or other suitable material, is seated in the opening **106**, as seen best in Figures 4 and 7, and the film **70** passes thereover, the light from the lamp **42** coming through the backing plate **108**. This backing plate is also useful inasmuch as the director may open the forward portion **110** of the script aid housing, which is hinged at **112** to the main portion **114**, and write directly upon the film such additional instructions for the actor as are needed, without the need for giving verbal audible instructions. The marking having been completed, the housing is again closed, and the instructions are projected upon the viewing screen. The backing plate **108** thus serves to provide a stiff writing surface when needed for the film. It is understood, of course, that when writing on the film, suitable crayon or pencil will be employed.

The film guide frame **98** has two side members **114** and **116** carried on the outer face of the frame base **102**, parallel with the side margins of the opening **106**, and it also has two top and bottom members **118** and **120**, which bridge across the outer end surfaces of the side members **114** and **116**. From Figure 7, it is clear that the film **70** thus passes between the two side members **114** and **116**, and under the top and bottom end members **118** and **120**, being thus guided in the slot or passageway formed thereby.

The film director's panel, shown in Figure 3 has a similar film guide frame **98***a*, with the corresponding parts marked with the suffix "*a*," as **114***a* and **116***a*. However, it is seen that the film director's panel does not have the front housing **110** with the viewing screen **40**, as do the script aids **28**.

A line **122** is etched or marked on the viewing screen **40**, as seen in Figure 2, and a similar line **122***a* is stretched across between the two side guide members **114***a* and **116***a* but over the script passing thereunder. This marking line indicates the exact words of the script which are at any moment to be spoken, and the script is so turned that the said words appear right above the marking line. Thus, at a glance, the actor can read off his lines right above the marking line, without looking all over the viewing screen, and the director turns his script in such fashion as to maintain the correct alignment of the script words with this line.

It is not necessary for the director's control panel **60** to be provided with rearward illumination as from a projection lamp **42**, since he needs no enlargement of his script. If, however, this is considered necessary, then such illumination can easily be provided.

From Figure 3, it is seen that each of the shafts **82** and **82***a* has a crank handle **120** and **122** by means of which the director can turn the script either up or down, that is, forward or reverse. Normally, the script will all be rolled up on the top roller **72**, and unrolled upon the bottom roller **74** by turning the lower crank handle **122**. As the rollers **72** and **74** thus turn, their respective selsyns **92** or **94** will turn together therewith. By means of switch **126** shown in Figures 3 and 8, the proper electrical connection is made, the switch **126** being a double pole, double throw switch. When it is thrown in one direction, the lower selsyn transmitter **94** is operative as the crank **122** is turned, moving the script downwards as seen in Figure 3. The turning of the selsyn transmitter **94** by the director causes the receiver selsyn **130** in such script aid housing **28***a, b, c, d* and *e*, to turn in the same direction and at the same speed as that of the director on his panel **60** of Figure 3. Hence all the scripts move together and in synchronism with the script of the director. Further, whenever the director's script stops moving, all the scripts stop moving.

If, for some reason, the director desires to move the script in reverse, as for example, to wind it back on the upper roller, then all he has to do is flip his selsyn control switch **126** over to reverse position. And then he turns upper crank **120**, actuating selsyn transmitter **92**, and all the corresponding upper selsyn receivers **132** in each of the script aid housings **28***a, b, c, d* and *e*. In Figure 9, the condensers **134** and **136** are employed to limit hunting when the selsyn switch **126** is thrown. A servo-mechanism may also be used for this purpose, if desired.

On top of each of the script-aid housings **28***a, b, c, d* and *e*, there are mounted a red lamp **138** and a green lamp **140**. The director's table **60** in Figure 3 has a third switch **142**, also shown in Figure 8, which may be flipped one way to turn on the red lamp, indicating that the actors should slow down, in reading their lines, or he may flip it the other way to turn on the green lamp, indicating that the actors should read faster, the switch being arranged for a central neutral position when both lamps would be out.

From the above description, it is apparent that this is a very useful device, particularly when actors are performing before the television camera.

It will be understood that, although we have described our invention in specific terms, various changes may be made in size, shape, materials and arrangement without departing from the spirit and scope of the invention as claimed.

We claim:

1. A script prompting system comprising a director's

control panel, a first script roller rotatably mounted on said control panel, a first crank for turning said first script roller, a first selsyn transmitter turnable with said first script roller, a second script roller rotatably mounted on said control panel below said first script roller, a second crank for turning said second script roller, a second selsyn transmitter turnable with said second script roller, a script roll bearing a script and rolled about said first and second script rollers, a roll guide disposed between said first and second script rollers and in the path of said script roll, means in said roll guide for maintaining the alignment of said script roll, line means in said roll guide and extending across the path of said script roll, for indicating script portions thereon, at least one script aid housing disposed in the line of vision of an actor while on a stage, a viewing screen carried on said script aid housing, a projection lamp in said housing and adapted to cast a light beam on said viewing screen, a script aid roll guide disposed in the path of said light beam, first and second script aid rollers mounted rotatably in said housing, a second script roll corresponding to said first script roll and bearing a script thereon, said script roll being wound around said first and second script aid rollers in said housing and engaging said script aid roll guide to pass through the path of said light beam, whereby said script thereon is projected upon said viewing screen for prompting said actor, a first selsyn receiver rotatable with said first script aid roller, a second selsyn receiver rotatable with said second script aid roller, power line means connected to said selsyn transmitters and receivers for actuating the same, wire means interconnecting portions of said selsyn transmitters and receivers for causing the same to turn in synchronism with each other, and switch means interposed in said power line means and said wire means for alternatively interconnecting the said first selsyn transmitter with said first selsyn receiver, and the said second transmitter with said second receiver, whereby upon turning said first roller in said control panel the said first selsyn transmitter causes said first selsyn receiver connected therewith to turn, and whereby, upon interconnecting said second selsyns together, turning of said second roller in said control panel causes said second selsyn receiver to turn, whereby, upon turning one of said first and second rollers on said control panel, the script on both said control panel and said script aid housing will move in unison.

2. A script prompting system comprising a director's control panel, a first script roller rotatably mounted on said control panel, a first crank for turning said first script roll, a first selsyn transmitter turntable with said first script roller, a second script roller rotatably mounted on said panel below said first script roller, a second crank for turning said second script roller, a second selsyn transmitter turntable with said second script roller, a script roll bearing a script and rolled about said first and second script rollers, a roll guide disposed between said first and second script rollers and in the path of said script roll, means in said roll guide for maintaining the alignment of said script roll, line means in said roll guide and extending across the path of said script roll, for indicating script

portions thereon, at least one script aid housing disposed in the line of vision of an actor while on a stage, a viewing screen guide on script aid housing, a projection lamp in said housing and adapted to cast a light beam on said viewing screen, a script aid roll guide disposed in the path of said light beam, first and second script aid rollers mounted rotatably on said housing, a second script roll corresponding to said first script roll and bearing a script thereon, said script being wound around said first and second script aid rollers in said housing and engaging said script aid roll guide to pass through the path of said light beam, whereby said script thereon is projected upon said viewing screen for prompting said actor, a first selsyn receiver rotatable with said first script aid roller, a second selsyn receiver rotatable with said second script aid roller, power line means connected to said selsyn transmitters and receivers for actuating the same, wire means interconnecting portions of said selsyn transmitters and receivers for causing the same to turn in synchronism with each other, and switch means in said power line means and said wire means for alternatively interconnecting with said first selsyn transmitter with said first selsyn receiver, and said second transmitter with said second receiver, whereby upon turning said first roller in said control panel the said first selsyn transmitter causes said first selsyn receiver connected therewith to turn, and whereby upon interconnecting said second selsyns together turning of said second roller of said control panel causes said second selsyn receiver to turn, whereby, upon turning one of said first and second rollers on said control panel, the script on both said control panel and said script aid housing will move in unison, said system including a housing for said second selsyn, said housing being mounted upon a television and motion picture camera.

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