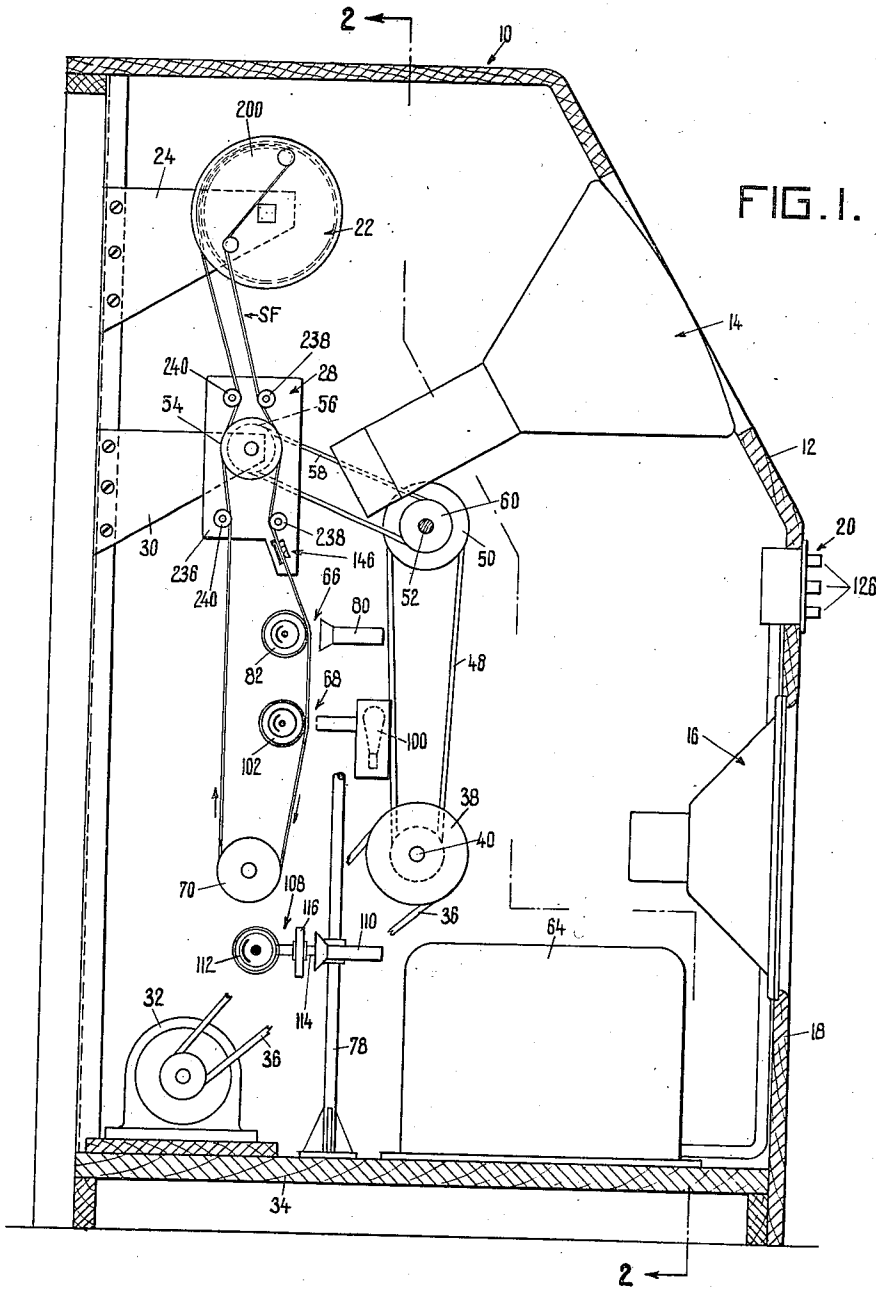


Aug. 4, 1942.

M. P. WARNER ET AL
SELECTIVE AUTOMATIC APPARATUS FOR REPRODUCING
IMAGES FROM RECORDS THEREOF
Filed June 13, 1940

2,292,307

5 Sheets-Sheet 1



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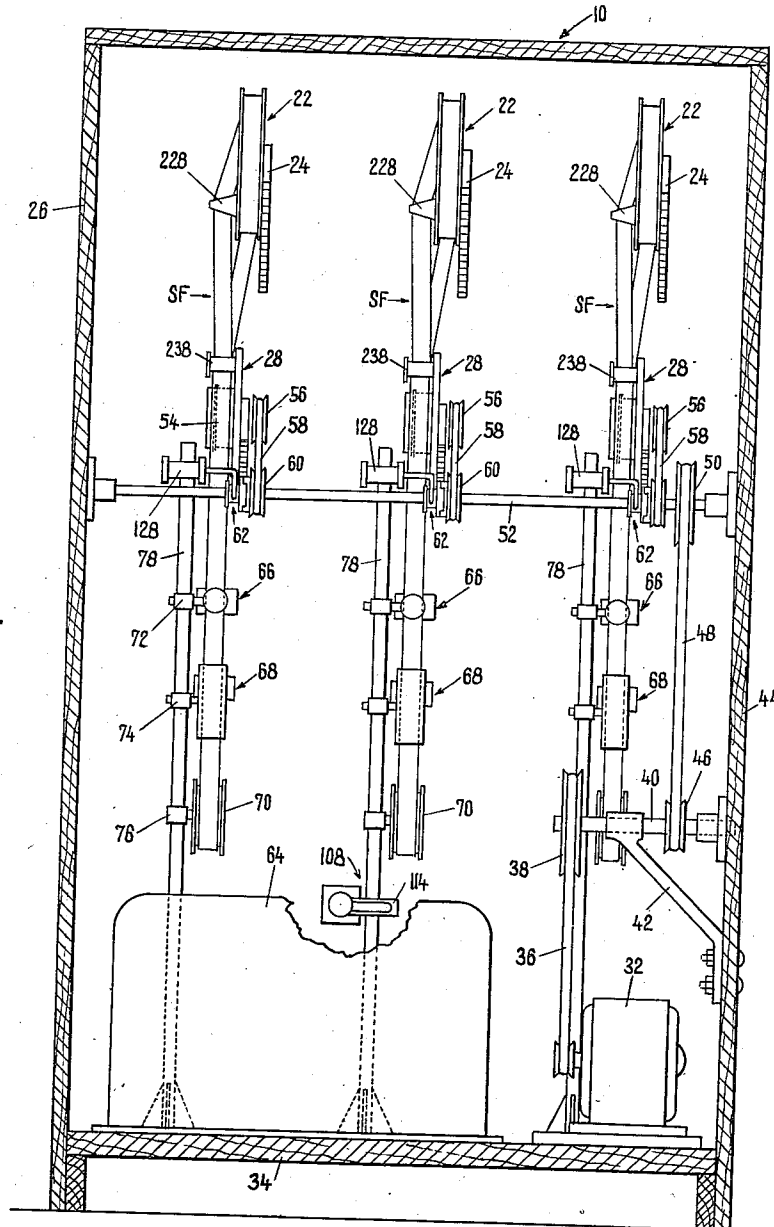
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FIG. 2.



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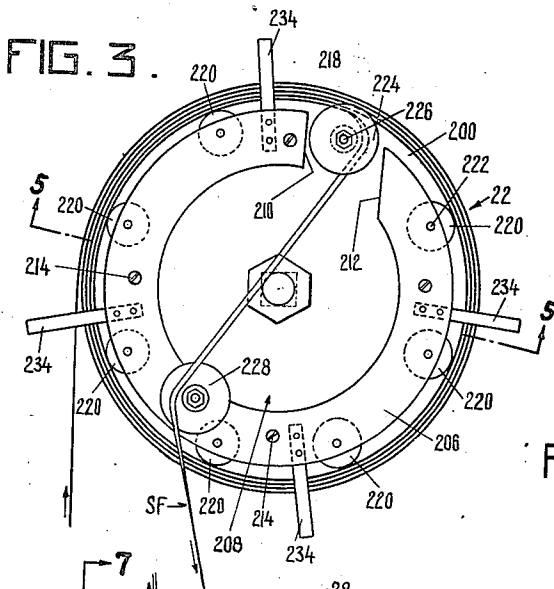
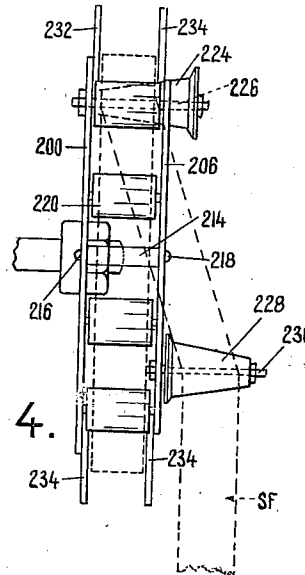
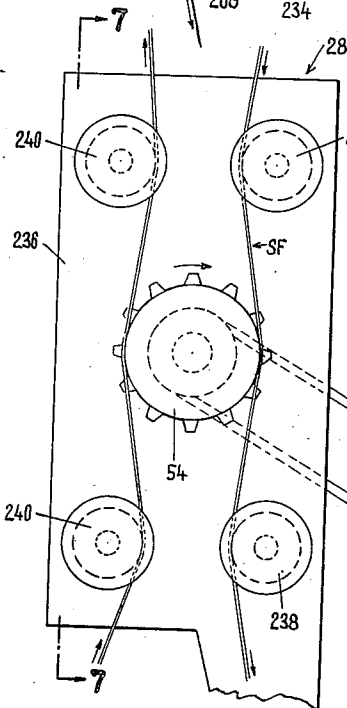
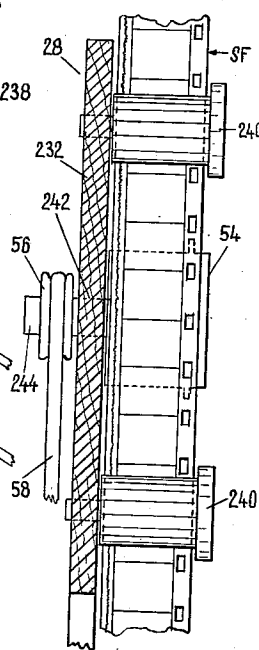
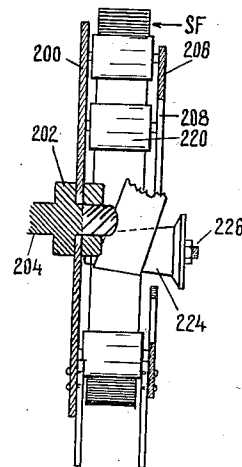
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2,292,307

5 Sheets-Sheet 3



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2,292,307

5 Sheets-Sheet 4

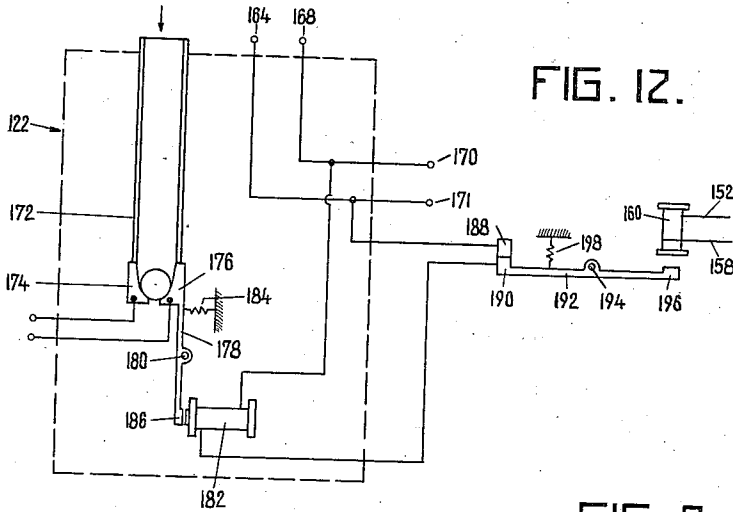


FIG. 12.

FIG. 9.

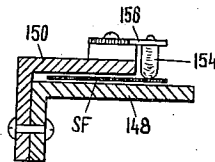


FIG. 13.

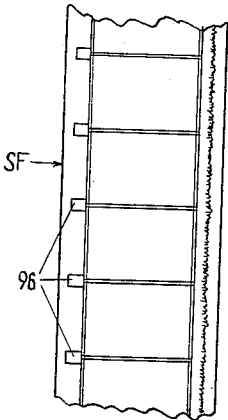


FIG. 10.

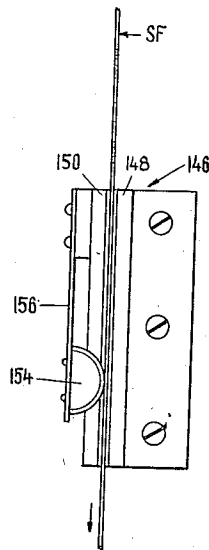
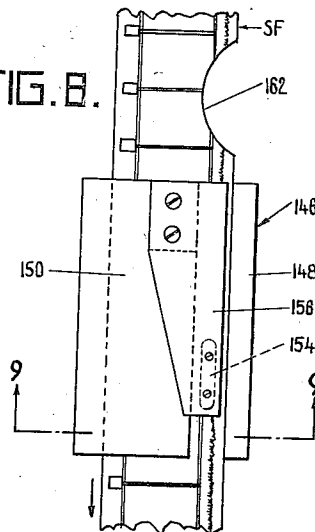


FIG. 8.



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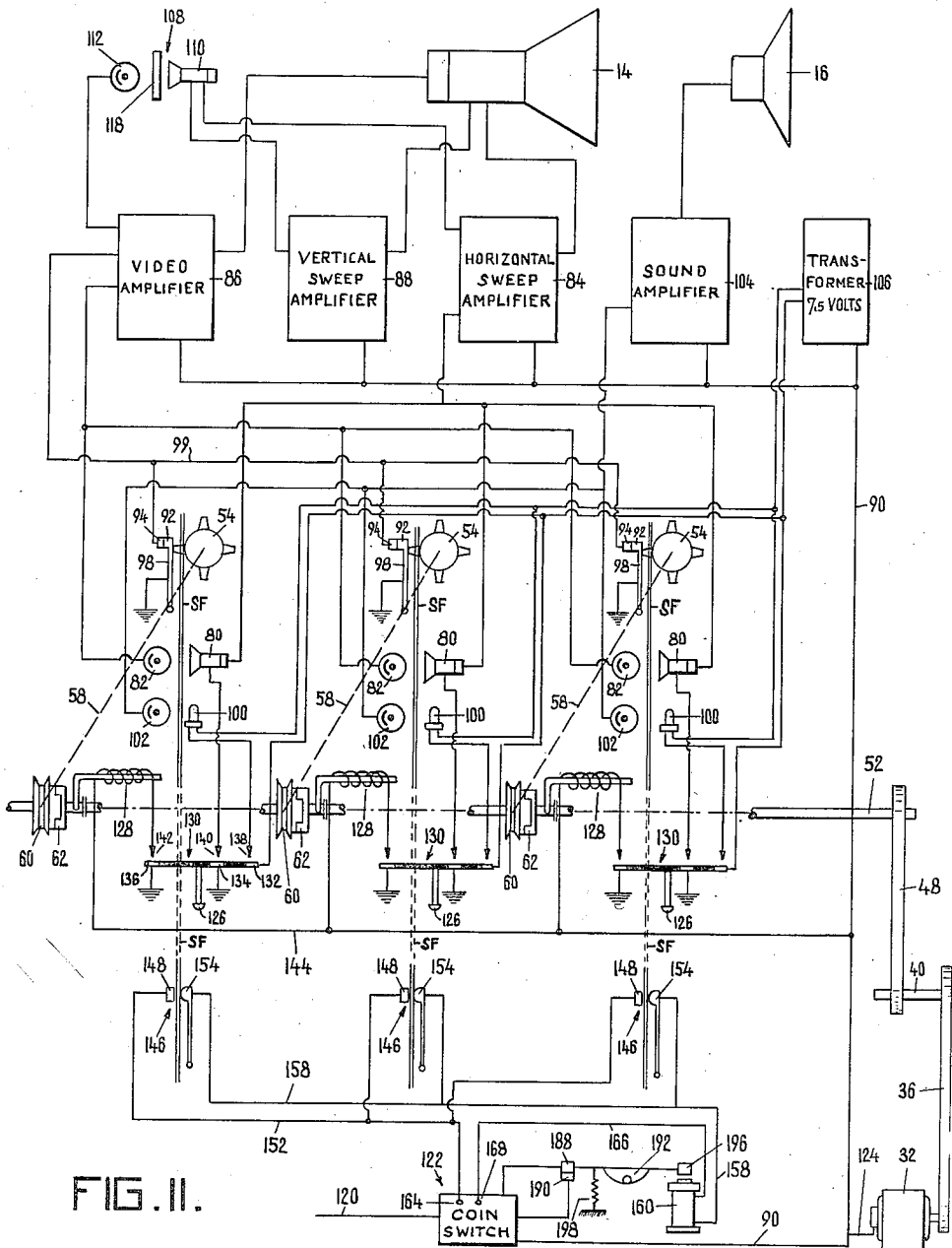


FIG. II.

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UNITED STATES PATENT OFFICE

2,292,307

SELECTIVE AUTOMATIC APPARATUS FOR
REPRODUCING IMAGES FROM RECORDS
THEREOFMatthew P. Warner and Selig S. Liese, Freeport,
N. Y., assignors to Barney Rosenberg and Sam-
uel W. Fried, New York, N. Y., as trustees

Application June 13, 1940, Serial No. 340,396

11 Claims. (Cl. 178-5.6)

The present invention relates to selective automatic apparatus for reproducing sound and motion pictures or other visual images from records thereof.

One object of the invention is the provision of apparatus constructed and arranged to operate selectively and automatically for reproducing any one of a plurality of vision records, for example, motion picture films, preferably with an accompanying reproduction of sound without requiring the use of motion picture projection apparatus of the optical type. More specifically, in accordance with this object of the invention, the motion pictures are reproduced by electronic current actuated or responsive means such for example as cathode ray tubes employed in the television art.

Another object of the invention is the provision of apparatus of the character referred to arranged in a cabinet and provided with means which may be coin-controlled for selecting the record to be reproduced and for effecting the reproduction of said record. Motion picture apparatus of this type is well adapted for use in various public places, as well as in the home, for entertainment or advertising purposes.

A further object of the invention is the provision of motion picture apparatus having reels for the several films constructed and arranged so that in the operation of a selected film the latter is automatically rewound during the reproduction of the pictures or sound carried by the successive portions of the films whereby to obviate the necessity for rewinding the film after the actuation of the apparatus for reproducing the same. In other words the same film can be operated as often as desired without intermediate rewinds of the film between successive reproductions thereof. Further, the provision of reels of this character permits the apparatus including a plurality of films to be mounted within a relatively small cabinet and also eliminates rewinding devices whereby further to reduce the size of the cabinet.

Another object of the invention is the provision in conjunction with motion picture apparatus of the character described of a novel picture pick-up device and of a novel method of scanning the film.

The above objects of the invention and other objects which might hereinafter appear will be fully understood from the following description considered with reference to the accompanying drawings which, however, are to be considered

as illustrative of the invention but not in limitation thereof.

In the drawings:

Fig. 1 is a vertical sectional view of apparatus embodying the present invention;

Fig. 2 is a sectional view on the line 2-2 of Fig. 1, with certain parts omitted for the sake of clearness of illustration;

Fig. 3 is a front view of the self-winding film reel;

Fig. 4 is an end view of the self-winding reel;

Fig. 5 is a sectional view of the self-winding reel on the line 5-5 of Fig. 3;

Fig. 6 is a side view of the film guide and driver; Fig. 7 is an end view of the film guide and driver;

Fig. 8 is a front view of a film controlled circuit maker and breaker;

Fig. 9 is a sectional view on the line 9-9 of Fig. 8;

Fig. 10 is an end view of the film controlled circuit maker and breaker;

Fig. 11 is a block diagram, partly schematic, of the electrical apparatus, and also illustrates more or less diagrammatically the mechanical devices of the apparatus;

Fig. 12 is a schematic view of a coin-controlled switch mechanism;

Fig. 13 is a front view of part of a motion picture film.

Referring now to the drawings in detail, the apparatus as here shown comprises a cabinet 10 having an inclined upper panel 12 provided with an opening with respect to which the vision cathode ray tube 14 is juxtaposed. The sound reproducing unit or loud speaker 16 is arranged at the lower or vertical part 18 of the front wall of the cabinet. The selector 20, usually coin-controlled, is mounted for convenient access and operation at the upper part of the vertical front wall.

A plurality of film reels 22, hereinafter to be described more or less in detail, for a plurality of films SF are mounted in stationary position within the cabinet on individual brackets 24 fixed to the rear wall 26 of the cabinet. A film guide and driver 28 is associated with each self-winding reel 22 and is mounted therebelow on a bracket 30. The motor 32 for moving the film is mounted on the bottom 34 of the cabinet and is connected by a pulley driven belt 36 to a pulley 38 which rotates the shaft 40 journaled for rotation in bearings carried by a bracket 42 fixed to a side wall 44 of the cabinet. Shaft 40 is provided with a driving pulley 46 which, through a belt 48, ac-

tuates a pulley 50 fixed to rotary driven shaft 52. It will be understood that the diameters of the several pulleys are so related as to result in the rotation of shaft 52 at the proper speed for moving the films at the proper speed. Each film guide and driver 28 includes a rotary sprocket wheel 54 which is driven by a pulley 56 rotated by a belt 58 actuated by a pulley 60 mounted on shaft 52. Each pulley 60 is mounted for rotation on shaft 52, being held against movement longitudinally of said shaft, and is rotated by the latter only when a companion clutch 62 movable longitudinally of the shaft and rotatable thereby is selectively operated in accordance with the film SF selected to be reproduced in the operation of the apparatus. Certain of the electrical devices hereinafter to be referred to are preferably mounted in the casing 64 which as here shown is supported on the bottom wall 34 of the cabinet.

As illustrated in Figs. 1 and 2, each film SF, which is preferably a motion picture film having a sound recording thereon, passes from the reel 22 to its companion film guide 28 and from the latter to the picture pick-up device 66 and to the companion sound pick-up device 68 and around the lower guide roller 70 from which the film returns to the self-winding reel 22, passing in its return movement through film guide 28. As illustrated in Fig. 2, said picture and sound pick-up device 66 and 68, respectively, and said lower guide roller 70 are adjustably mounted on brackets 72, 74 and 76, respectively, adjustably carried by a post or vertically extending support 78.

As hereinbefore stated, the motion picture record of each film SF is reproduced without optical projection apparatus. On the other hand, in accordance with the present invention the motion pictures are reproduced by apparatus of the television type. Thus, as here shown, the picture pick-up device 66 comprises a cathode ray tube 80 and a companion photo-cell 82. The cathode ray tube 80 is the picture scanning device and is designed to operate only with a horizontal sweep, that is, to produce a bright horizontal trace or line of illumination on the fluorescent screen of said tube. This is accomplished by applying in a well known way an alternating current voltage to the horizontal-deflection plates or magnets of the cathode ray tube. Said tubes 80 are also preferably provided, however, with means for applying a direct current voltage to the vertical deflection means, that is, to the horizontal plates or magnets for adjusting the vertical position of the horizontal trace. It will be understood that vertical adjustment of the sweep is intended only for adjusting the horizontal line or trace in respect to the companion photo-electric cell 82. It will be observed that the vertical sweep of the cathode ray scanning tube 80 is unnecessary for scanning purposes in view of the vertical movement of the film SF in relation to its companion pick-up device 66.

As shown more or less diagrammatically in the block diagram of Fig. 11, each cathode ray scanning tube 80 is connected to a horizontal sweep amplifier 84 which is also connected to the horizontal sweep control of the cathode ray vision tube 14. The photo-electric cells 82 are connected to the picture or video amplifier 86 which is connected to the grid of said vision tube 14. The vertical sweep amplifier 88 is connected to the vertical controls of the vision tube 14 but not to the pick-up device 66. Said amplifiers 84, 86 and 88 derive their energizing currents and potentials from a suitable source of alternating cur-

rent supplied thereto over the line 30 under the control of selectors and other control devices as will hereinafter be described.

The blanking out operation between frames of the films SF is accomplished as here shown by relatively movable companion contacts 92 and 94 under the control of a companion film driving sprocket 54 as illustrated more or less diagrammatically in Fig. 11 considered with reference to Fig. 13. Thus, as here shown, the sprocket openings 96 of the film SF are disposed on the lines between successive frames of said film. Accordingly, when said film is moved by its companion sprocket the teeth of said sprocket project through said openings 96 and in the arrangement here shown, one of said teeth in projecting through an opening 96 engages the spring arm 98 on which movable contact 92 is carried and, only at the times the lines between frames passes through said opening 96 engages the spring arm 98, causes said contact 92 to engage the companion contact 94 to close a circuit which includes the line 99 which is connected in the grid circuit of the vision tube 14. Accordingly in the scanning operation, the grid of vision tube 14 is grounded and no trace either vertical or horizontal appears on the fluorescent screen of said tube when the parts of the film between the frames thereof are in position to be scanned by cathode ray tube 80. It will be understood that contacts 92 and 94 are normally open, contact 92 being biased to open position by its companion spring strip 96.

It will be understood that the length of the scanning line or trace of pick-up tube 80 is regulated so that it does not extend into the sound recordings on the film and further it will be understood that although the length of the horizontal line or trace of tube 80 is relatively short, being in proportion to the picture width of the film SF, the horizontal line or trace reproduced on the viewing screen of the vision tube 14 is much longer, being amplified to the extent desired, within well known practical limits, by the horizontal sweep amplifier 84.

The sound pick-up device 68 can be of any suitable construction, and as here shown, includes an exciter lamp 100 and a companion photo-electric cell 102. As illustrated in Fig. 11, the photo-electric cells 102 are connected to the sound amplifier 104 which is connected to the loud speaker or sound reproducer 16. The exciter lamps 100 are energized by the step-down transformer 106 supplied from line 90.

The present invention contemplates use of the apparatus for advertising purposes as well as for entertaining or other purposes. Accordingly, said apparatus includes means for projecting on the fluorescent screen of the vision tube 14 reproductions of advertising matter, preferably simultaneously with the reproduction of the motion picture and sound record. For this purpose there is provided a pick-up device 108 including a cathode ray scanning tube 110 and a companion photo-electric cell 112. Said pick-up device 108 is carried by a bracket 114 adjustably mounted on one of the posts 78. Said bracket includes a frame 116 disposed between cathode tube 110 and a photo-electric cell 112 for supporting a translucent panel 118 on which the advertising matter appears. As panel 118 is preferably stationary during scanning thereof, scanning tube 110 has a vertical sweep control as well as a horizontal sweep control and is therefore connected, as illustrated in Fig. 11, to the horizontal sweep amplifier 84 and to the ver-

tical sweep amplifier 88. The photo-electric cell 112 of pick-up device 108 is connected to the picture or video amplifier 88 which, as hereinbefore stated, is connected to the grid of the vision tube 14. Preferably panel 118 is scanned in such relation to the scanning of film SF that the reproduction of the advertising matter appears on the upper part of the fluorescent screen of tube 14 while the reproduction of film SF appears wholly or mainly on the part of said fluorescent screen which is below the part on which said advertising matter is reproduced.

As hereinbefore indicated, provision is made for selecting the film SF to be reproduced in the operation of the apparatus and preferably the operation of the apparatus is coin-controlled. For this purpose the line 90 which supplies the electric energy to the various operating or control parts of the apparatus is connected to the alternating current supply line 120 under the control of a coin-controlled switch mechanism 122 as diagrammatically illustrated in Fig. 11. A branch line 124 connects motor 32 to line 90 whereby said motor is also actuated under the control of the coin-controlled switch mechanism 122. The means for selecting the film SF to be reproduced comprises a plurality of buttons 126 which together with the coin-controlled switch mechanism 122 form part of the selector 20. Each button controls a circuit for the cathode ray tube 80 of the vision pick-up device 66, the circuit of the exciter lamp 100 of the sound pick-up device 68, and a circuit for the solenoid 128 of the companion clutch 62 for each film SF. Each button is connected to a movable contact member 130 which is provided with three conducting portions 132, 134, and 136 respectively, said contact portions being insulated from each other. Contact portion 132 is engageable with a stationary contact 138 for closing the circuit from transformer 106 through exciter lamp 100. Contact portion 134 is engageable with a stationary contact member 140 for connecting companion cathode ray scanning tube 80 to the horizontal sweep amplifier 84, contact portion 136 being connected to ground as illustrated and it being understood that for the purpose of explanation said ground connection is to be considered as one side of the line of the horizontal sweep amplifier. Contact portion 136 is adapted to engage a stationary contact 142 to complete the circuit through the companion clutch-operating solenoid 128 which, as here shown, is connected to the branch line 144 which receives current from line 90. Contact portion 136 is illustrated as connected to ground and it will be understood that the other side of supply line 90 may be considered as connected to ground for completing the circuit. Thus when a coin is inserted in coin-controlled switch mechanism 122 and when a selected button 126 is actuated, the proper pick-up devices are activated and the apparatus is automatically operated to reproduce the motion picture film on the viewing screen of the vision tube 14 and at the same time the companion sound record which ordinarily is on the film is reproduced by the loud speaker 16.

As here shown, the pick-up 108 for the advertising matter is in the circuit so that panel 118 is reproduced simultaneously with the reproduction of each film SF, but it will be understood that pick-up 108 can be disconnected from the circuit if desired by any suitable switch mechanism (not shown) or that a plurality of such pick-up devices can be provided for a plurality

of different advertising panels respectively to be individually reproduced as desired upon the viewing screen of the vision tube 14, or upon some other vision tube, it being understood that the connection of pick-up device 108 with the vision tube 14 as here shown is merely illustrative of one of numerous ways in which advertising matter can be reproduced by television apparatus, preferably in conjunction with entertainment matter.

Provision is made for automatically interrupting the operation of the apparatus at the end of the reproduction of the selected film, and for conditioning the apparatus for the next operation to be initiated by the insertion of another coin. This is accomplished by the provision of a film controlled switch in conjunction with the coin-controlled switch mechanism 122 as will now be described, reference being had to Figs. 8 to 10 and 12 in conjunction with Fig. 2. The film controlled switch 148 is mounted on or supported by film guide 28 and comprises a guide passage formed by plates 140 and 150 between which the companion film SF passes during the movement thereof. Plate 140 is electrically connected to a line 152 leading to switch mechanism 122. A movable contact member 154 is carried by a spring strip 156 fastened to but insulated from plate 150 and electrically connected to line 158 in the circuit of electro-magnet 160. The arrangement is such that film SF normally prevents contact member 154 from engaging plate 140 but when the cut out portion 162 of the film (Fig. 8) which is arranged in the film at the part thereof near the end of the picture record passes contact member 154 the latter engages contact plate 140 to complete a circuit through electro-magnet 160. Line 152 is connected to a terminal 164 of switch 122 and line 166 which is connected to one end of the winding of magnet 160 is connected to terminal 168 of switch 122.

As illustrated in Fig. 12, terminals for connecting switch 122 to the supply line 120 are indicated at 170 and 171. In Fig. 12 the coin chute is indicated more or less diagrammatically at 172. Said chute comprises stationary and movable contacts 174 and 176 electrically connected to the respective input terminals 170 and 171. It will be understood that contact members 174 and 176 of coin chute 172 are connected to the opposite sides respectively of line 90 and that a circuit is completed through said line only when a coin is inserted in chute 172 and is positioned between contact members 174 and 176. Consequently after the reproduction of a selected record SF is completed, coin-controlled switch mechanism 122 is operated to eject the coin whereby to interrupt the circuit of line 90. For this purpose contact member 178 is mounted on a lever 179 pivoted at 180. Said lever is controlled by an electro-magnet 182 and by a spring 184. When magnet 182 is energized the armature 186 on the end of lever 179 is attracted and actuates said lever for moving contact member 178 to its projected or coin-retaining position, but when said magnet is de-energized spring 184 moves lever 179 to retracted or coin-releasing position. Magnet 182 is deenergized momentarily under the control of magnet 160. More specifically, the winding of magnet 182 is connected to input terminal 170 and through stationary and movable contact members 188 and 190, respectively, to input terminal 171. Movable contact member 190 is carried by a lever 192 pivoted at 194. When magnet 160 is energized, the armature

196 at one end of lever 192 is attracted thereby disengaging contacts 188 and 190, said contacts being normally held in circuit-closing position by a spring 198 which also is effective to return lever 192 to circuit-closing position after magnet 160 is de-energized.

As hereinbefore stated, magnet 160 is energized under the control of any one of the film controlled switches 146. It will be understood, however, that the energization of magnet 160 is only momentary, that is, only for a sufficient length of time, which is short, to permit operation of coin release magnet and lever 176 near the end of the operation of the reproduction of the companion film SF. Due to inertia, the film continues to move a short distance after the cut out portion 162 thereof reaches contact member 154 of the film controlled switch whereby the film again moves between and separates contact 154 from contact 148 thereby interrupting the circuit of magnet 160 and permitting lever 192 to return to normal switch-closing position thereby completing the circuit through the energizing magnet 182 for returning coin-releasing member 176 of the coin chute to coin-retaining position. Accordingly when a coin is inserted for the next operation of the apparatus, said coin completes a circuit through contact members 174 and 176 to line 90 for energizing the apparatus, and as soon as the selected button 126 is actuated the selected film and the accompanying sound record are reproduced as hereinbefore described. It will be understood that selector switches 130 can be interlocked in any well known manner so that only one switch can be actuated at any one time, a description of such mechanisms being unnecessary as numerous selectors are well known to those skilled in the art.

Reverting now to the self-winding reels 22 and the companion film guides and drivers, the construction of these devices will now be described. The self-winding reel 22 comprises a plate 200 having a fixed central bearing member 202 provided with an opening, preferably non-circular, for mounting said reel on a supporting part 204 of bracket 24 whereby the reel is removably mounted and supported by said bracket in stationary position. An annular plate 206 having a central opening 208 and spaced ends 210 and 212 is carried by plate 200 in fixed spaced and parallel relation thereto. Plate 206 is secured in said position by a plurality of peripherally spaced members 214 and companion screws 216 and 218 which are passed through plates 206 and are threaded into the opposite ends of spacer members 214. A plurality of peripherally spaced cylindrical rollers 220 are mounted for rotation on companion spindles 222 fixed at their opposite ends in plates 200 and 206, respectively. A conical roller 224 tapering toward plate 200 is mounted for rotation on a spindle 226 fixed to said plate in position between spaced ends 210 and 212 of plate 206. A similar but oppositely tapering conical roller 228 is mounted for rotation on a spindle 230 fixed to and projecting outwardly from plate 206. The film SF is an endless film and is disposed in the form of a winding with the innermost convolution in engagement with cylindrical rollers 220 and conical rollers 224 and 228. The innermost convolution of the film passes over and is in engagement with roller 224, the opposite surface of said film passing over conical roller 228, the film being thus directed for movement progressively from the inner convolutions thereof, the withdrawn portions of the

film being axially displaced outwardly from between plates 200 and 206 by engagement with roller 228. It will be understood that as portions of the film are retracted from the winding thereof by operation of sprocket 54 the previously withdrawn portions of the film are automatically rewound progressively as successive outermost convolutions of the film winding on reel 22. Radially projected members 232 and 234 are secured to plates 200 and 206, respectively, for preventing axially displacement of the convolutions of the film winding on the reel.

As hereinbefore stated, the film passes from reel 22 to the film guide 28 being thus moved by the driving sprocket 54. Said film guide 28 comprises, as here shown, a plate 236 carried by bracket 30. Film guide headed pins 238 are carried by plate 236 in position to hold the advancing portions of the film in engagement with the teeth of sprocket wheel 54, and similar members 240 are carried by said plate for holding the retracting portions of the film in engagement with said sprocket. Plate 236 has a bearing opening 242 in which the shaft 244 of the sprocket wheel is journaled for rotation.

While we have shown and described the preferred way of practicing our invention, it will be understood that the latter is capable of numerous specific embodiments which may comprise various electrical and mechanical devices of different constructions. Thus, for example, a single vision pick-up device and/or a single sound pick-up device can be used for all of the films instead of a plurality of sets of such devices for the several films, respectively, in which case the single set of pick-up devices can be mounted for movement to pick-up positions in relation to said films, respectively. Also in lieu of cathode ray scanning tubes, it is within the scope of this invention to utilize other scanning devices, for example, rotary disks having concentric apertures or belts having a horizontal row of scanning apertures. Various other changes in the apparatus herein disclosed may be made and will occur to skilled artisans in view of the present disclosure. Accordingly, we do not wish to be limited to the apparatus herein specifically illustrated or described or to the specific organization herein disclosed, except to the extent which may be required by the scope of the present claims.

Having thus described our invention, what we claim and desire to secure by Letters Patent is:

1. Apparatus of the character described comprising a cathode-ray vision tube, means for mounting a plurality of motion picture films to be reproduced, a plurality of selectively operable film-operating means for said films, respectively, means for selectively reproducing said films including said vision tube and picture pick-up means operatively connected to said tube and arranged to be operatively associated with said films when the latter are operated, means for selectively operating said pick-up means, and means including a single motor for actuating any one of said film-operating means.

2. Apparatus of the character described comprising a cathode-ray vision tube, means for mounting a plurality of motion picture films to be reproduced, a plurality of selectively operable film-operating means for said films, respectively, means for reproducing said films including said vision tube and picture pick-up means operatively connected to said tube and arranged to be operatively associated with said films, respectively,

when the latter are operated, said pick-up means comprising cathode-ray scanning means and photo-electric means responsive thereto and operable under the control of a selected film for transmitting video signals to said vision tube, and means including a single motor for actuating any one of said film-operating means.

3. Apparatus of the character described comprising a cathode-ray vision tube, stationary means for mounting a plurality of picture-records to be reproduced, a plurality of selectively operable record-operating means for said records, respectively, means for reproducing any one of said records including said vision tube and picture pick-up means operatively connected to said tube and arranged to be operatively associated with said records, respectively, when the latter are operated, respectively, said pick-up means comprising a plurality of cathode-ray scanning tubes and companion photo-electric cells responsive to said cathode scanning tubes, respectively, associated with said records, respectively, and operable selectively under the control of a selected record for transmitting video signals to said vision tube, and means including a single motor for actuating any one of said record-operating means.

4. Apparatus of the character described comprising a cathode-ray vision tube, means for mounting a plurality of picture records to be reproduced, means for selectively reproducing said records including said vision tube and picture pick-up means operatively connected to said tube and arranged to be operatively associated with any one of said records when the latter are operated, respectively, said pick-up means comprising cathode-ray scanning means and photo-electric means responsive thereto and operable under the control of a selected record for transmitting video signals to said vision tube, means for selectively operating said records in relation to said pick-up means including a plurality of selectively operable record-operating means for said records, respectively, coin-controlled selective means, and means including a single motor operable under the control of said coin-controlled selective means for actuating any one of said record operating means.

5. Apparatus of the character described comprising a cathode-ray vision tube, means for mounting a plurality of motion picture films to be reproduced, means for selectively reproducing said films including said vision tube and picture pick-up means operatively connected to said tube and arranged to be operatively associated with any one of said films when the latter are operated, respectively, said pick-up means comprising a plurality of cathode-ray scanning tubes and companion photo-electric cells responsive to said cathode scanning tubes, respectively, and operable selectively under the control of a selected record for transmitting video signals to said vision tube, means for selectively activating said cathode-ray scanning tubes and their companion photo-electric cells, means including a plurality of selectively operable film-operating means for said films, respectively, for selectively moving said films in relation to said cathode-ray scanning tubes and their said companion photo-electric cells for the selective reproduction of said films, coin-controlled selective means, means including a single motor operable under the control of said selective means for actuating any one of said film operating means, and means operable under the control of said coin-controlled selec-

tive means for activating the scanning tube associated with the selected film-operating means.

6. Apparatus of the character described comprising a cathode-ray vision tube, means for mounting a plurality of picture records to be reproduced, means for selectively reproducing said records including said vision tube and picture pick-up means operatively connected to said tube and arranged to be operatively associated with any one of said records when the latter are operated, respectively, a plurality of selectively operable record-operating means for said records, respectively, and means including a single motor for actuating any one of said record-operating means, and means operable under the control of the selected record for interrupting the operation of said motor.

7. Apparatus of the character described comprising a cathode-ray vision tube, means for mounting a plurality of motion picture films to be reproduced, means for selectively reproducing said films including said vision tube and picture pick-up means operatively connected to said tube and arranged to be operatively associated with any one of said films when the latter are operated, respectively, said pick-up means comprising a plurality of cathode-ray scanning tubes and companion photo-electric cells responsive to said cathode scanning tubes, respectively, and operable selectively under the control of a selected record for transmitting video signals to said vision tube, means for selectively activating said cathode-ray scanning tubes and their companion photo-electric cells, a plurality of individually operable means for moving said films, respectively, in relation to said cathode-ray scanning tubes and their said companion photo-electric cells for the selective reproduction of said films, means including a single motor for actuating any one of said film-operating means, and means including a coin-controlled switch mechanism operable under the control of a selected film and after a predetermined extent of movement thereof for interrupting the operation of the selected film.

8. Apparatus of the character described comprising a cabinet, stationary means in said cabinet for mounting a plurality of motion picture films for operation therein, a cathode-ray vision tube mounted in said cabinet and having its picture reproducing screen visible externally of said cabinet, means for selectively reproducing said records including said vision tube and picture pick-up means operatively connected to said tube and arranged to be operatively associated with said records when the latter are operated, a plurality of selectively operable record-operating means for said records, respectively, and means including a single motor for actuating any one of said record-operating means.

9. Apparatus of the character described comprising a cabinet, a plurality of motion picture films in said cabinet each mounted for movement at a separate fixed station, a cathode-ray vision tube mounted in said cabinet and having its picture reproducing screen visible externally of said cabinet, picture pick-up means operatively connected to said vision tube and mounted in said cabinet in position to be operatively associated with any one of said films for operating said vision tube when said films are operated at said stations, respectively, a plurality of selectively operable film-operating means for said films, respectively, and means including a single

motor for actuating any one of said film-operating means.

10. Apparatus of the character described comprising a cabinet, a plurality of motion picture films in said cabinet each mounted for movement at a separate fixed station, a cathode-ray vision tube mounted in said cabinet and having its picture reproducing screen visible externally of said cabinet, picture pick-up means operatively connected to said vision tube and mounted in said cabinet in position to be operatively associated with any one of said films for operating said vision tube when said films are operated at said stations, respectively, said films also having sound records thereon, sound pick-up means for said sound records, means operable under the control of said sound pick-up means for reproducing the sound record of the selected film simultaneously with the reproduction of the picture record, a plurality of selectively operable film-operating means for said films, respectively, and means including a single motor for actuating any one of said film-operating means.

11. Apparatus of the character described comprising a cabinet, a plurality of motion picture films in said cabinet each mounted for movement at a separate fixed station, a cathode-ray vision tube mounted in said cabinet and having its picture reproducing screen visible externally of said cabinet, picture pick-up means operatively connected to said vision tube and mounted in said cabinet in position to be operatively associated with any one of said films for operating said vision tube when said films are operated at said stations, respectively, a plurality of individually operable means at said stations, respectively, for moving said films one at a time in said cabinet, means for selecting the film-moving means to be operated, and means including a single motor for actuating any one of the selected film-moving means.

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