ABSTRACTS OF RECENT U. S. PATENTS

1,805,511. **Apparatus for Making Animated Pictures.** A. W. CARPENTER. Assigned to Audio-Cinema, Inc. May 19, 1931. An animated picture photographing apparatus having a work table on which a picture sheet is spread flat adjacent a compressible pad. A rigid support is provided for the pad. The picture is pressed down upon the pad and flattened thereagainst by means of a glass plate. The picture is supported by means of end clamp devices which permit the picture to be shifted away from the pad with the plate when the plate is raised preparatory to a subsequent animated picture operation. Successive pictures are produced and then photographically reproduced upon a film in proper sequence so that when the film is projected the object will appear to move on the projection screen.

1,805,579. **Portable Motion Picture Film Carrier.** L. GOLDHAMMER. Assigned to Agfa Ansco Corp. May 19, 1931. A portable film carrier which contains a film transporting drum including a swinging holder containing pressure rollers for pressing the film toward the film transporting drum. A locking device is provided for maintaining the film in position on the film transporting drum wherein release means may be actuated when removing the film from the film transporting drum.

1,804,685. **Continuous Sound Picture Projection.** W. K. GRIMM. May 12, 1931. Motion picture film is driven continuously in relation to a light reflecting mirror disposed in alignment with a lens system. A framing mask is arranged to overly the film and may be adjusted with respect to the reflecting mirror to alter the position of the framing mask with respect to the mirror. In as much as the film is moved continuously in the projector of this invention for the projection of pictures, the reproduction of sound from the film may be obtained from the same point in the longitudinal length of the film and not displaced in position along the film as heretofore has been necessary.

1,805,948. **Printing Machine for Sound and Picture Records.** G. LANE. Assigned to Audio-Cinema, Inc. May 19, 1931. A machine which may be used for printing both the sound and picture records on a film. The printer includes an aperture ring having thereon a plurality of apertures of different widths and extents, so arranged in relation to the printing aperture, that one of the ring apertures may be made to occupy the desired position for printing either the sound or picture records, as desired. Motion pictures are printed through one aperture while the sound is printed through another aperture in a position displaced longitudinally of the film and adjacent one edge of the film out of line with the picture.

1,805,594. **System for Combined Television and Communication.** R. D. PARKER. Assigned to American Telephone and Telegraph Co. May 19, 1931. Two people while being televised may converse with each other by telephone instruments which do not interfere with the production of a full-face image of each party in the line of vision of the other and so placed as to produce the illusion of a face-to-face conversation. The telephone instruments are outside the field of

view of the scanning apparatus in the booth which the persons occupy for transmission and reception of the television image. Each booth is equipped with an image integrator and analyzer and a telephone transmitter and loud speaker shielded from view of the television devices.

1,806,122. **Motion Picture Film Reënforced by Metal Strips.** A. H. SMITH. May 19, 1931. The edges of the film at the perforations are reënforced by metal strips secured through the perforations by means of tongues which are punched from the strip in forming the desired perforations therein, the said tongues being bent around the transverse edges of the film perforations to secure the reënforcing strip to the film. The securing tongues are so arranged that the ends of the forwardly extending tongues extend beneath the ends of the rearwardly extending tongues, thus forming a positive protection for the film.

1,806,190. **Method of Obtaining Stereoscopic Impressions of Motion Picture Images.** N. ARFTSEN. May 19, 1931. Stereoscopic pictures are produced by utilizing light of different wave-lengths for each eye of the observer so as to bring the eyes into different states of adaptation, forming right and left images with sufficient rapidity to produce persistence of vision. A beam of light neutralizing the image which the eye should see is directed into each eye alternately. The projection system avoids the necessity of observing a picture through some form of rotary shutter device placed in front of the observer's eyes. Motion picture film having pictures arranged side by side is employed in the stereoscopic system. The system is based on the fact that the ability of one eye of perceiving or seeing a certain view remains unaffected by a light impression created in the other eye providing that such light impression is entirely uniform and homogeneous. A sudden light such as a flash or a short projection of a picture will be perceived by the human eye only after a certain interval has elapsed. The length of this interval, *i. e.*, the interval between the actual emission of light rays and their perception by the human eye and brain, is referred to as "perception time." The same depends to a large extent on the intensity of the light projection. The stronger the light, the shorter will be the perception time. One and the same light projection appears in a lesser degree of brightness, if the eye receives an additional light. This additional light may be thrown into the eye from the side or from some other place surrounding the light projection. The stronger such additional light is, the longer will be the perception time of the light projection. Under the condition that the additional light appears in a certain (red) color, only the perception time of the same (red) colored light will be prolongated and the perception time of the contrasting (green) light will be of a shorter endurance.

1,806,375. **Photographic Recording by Radioactive Means.** JOHN A. TIEDEMAN. Assigned to General Electric Co. May 19, 1931. Figures or characters to be recorded on film are preferably cut into a recording drum or other surface which may be brought into contact or close proximity to the film and the depressions caused by the cut-in figures are then filled with a radium salt or other suitable radioactive substance. Then when the unexposed film is brought into contact with the drum those portions of the film opposite the figures are exposed to the action of the radioactive substance so that when the film is developed these figures are clearly indicated thereon. A permanent record from which film may be printed is provided on the engraved surface of the drum wherein the depressions are filled with the radioactive salt.

1,806,452. **Method of Producing a Background for Motion Pictures.** F. GULGORA. May 19, 1931. A motion picture is reproduced with a background produced by projecting with an ordinary motion picture machine a given picture substantially centrally of the screen, using a dissolving lantern slide projector at the same time for projecting different still pictures on said screen around the motion picture without overlapping it, and simultaneously using a second dissolving lantern for projecting a still picture around the second picture projected whereby the picture on the screen will consist of a motion picture and two still pictures. Two or more motion pictures may be used together, or a single motion picture with one or more projecting lanterns, may be used at the same time, and caused to present independent pictures to be projected on a screen at different points in such a way as to produce a single effect.

1,806,617. **Synchronized Photographic and Disk Recording and Reproducing Mechanism.** C. W. EBELING. May 26, 1931. Duplicate motors are provided for driving separate disk records for a talking picture system. The driving motors for each disk record are interconnected through differential gearing to the motion picture projector. Governing means are provided for each record table driven by the separate motors for maintaining the record tables in synchronism with the operation of the projector. The system is also applicable to a camera and disk record recording system for sound pictures.

1,806,638. **Scanning Disk for Television System.** PIERRE MERTZ. Assigned to American Telephone and Telegraph Co. May 26, 1931. Scanning disk for television systems which is provided with apertures aligned in different concentrical circles in overlapping relationship. The entire area of a field of view is repeatedly scanned and then each scanning line of the entire path of one complete scanning operation partially overlapped with two scanning lines of a preceding scanning operation for securing detail in the scanning operations.

1,806,744. **Silent Drive Mechanism for Talking Motion Picture Machines.** LEE DE FOREST. Assigned to General Talking Pictures Corp. May 26, 1931. Separate and independent drives are provided for the picture recording or projection and sound recording or reproduction processes in the camera or projection machine. The film feeding sprockets are driven as usual while the phonofilm attachment is independently driven for reducing machine noises to a minimum at the sound slit to avoid interference with the recording of sound.

1,806,745. **Sound Producing Device Using Modulated Flow of Gas.** Assigned to General Talking Pictures Corp. LEE DE FOREST. May 26, 1931. A screen is employed as one of the electrodes in a sound reproducing system. A gas is modulated in accordance with voice currents and the flow thereof with respect to the screen electrode modified for the reproduction of sound. An electric tension is established between the screen-like electrode and an adjacent electrode for the reproduction of sound in accordance with the modulated flow of gas.

1,806,746. **Luminous Discharge Tube for Recording and Reproducing Sound.** LEE DE FOREST. Assigned to de Forest Phonofilm Corp. May 26, 1931. The cathode in a luminous discharge tube is shaped to have a uniform thickness but a width which varies along its central axis so that a varied voltage across the electrodes will produce a varying negative glow which is exaggerated. The chief advantage of this kind of glow discharge tube is to emphasize the higher harmonics of the recorded sound which are normally of relatively low intensities, and are as

a consequence inadequately recorded and inadequately reproduced by the reproducing system, particularly the loud speaker elements thereof.

1,807,270. **Visionograph Record and Method of Making the Same.** CHARLES ALBERTI. May 26, 1931. Two record tables are geared to operate synchronously with a television scanning disk. The magnetic engraving devices associated with each disk record are so associated with the visual recording circuit and sound recording circuit that synchronous sound and picture records may be made. One engraving tool is connected in series with the light-sensitive device which is controlled by the operation of the scanning disk for making a record of the visual signaling energy. The other record table carries a disk which is engraved by a device under control of the sound pick-up circuit. The gearing system insures synchronous operation of the recording and scanning systems.

1,807,327. **Repeating Stereopticon.** J. F. STUBNER. May 26, 1931. Automatic projecting machine for stereopticon slides wherein there is provided a magazine for a plurality of slides above the beam of light. The foremost slide is moved vertically into the path of the beam and the next foremost slide is moved into the path of the beam so that its lower edge strikes against the top edge of the first slide to eject the first slide. The ejected slide is automatically moved into an upright position and restored to the rear of the magazine of the stereopticon for the repeat projection process.

1,807,464. **Scanning System for Television.** JOHN L. BAIRD. Assigned to Television, Limited, London. May 26, 1931. A scanning system for television which includes an exploring device which provides a series of laterally displaced images whereof the maximum displacement is a fraction of the width of the picture, a plurality of light-sensitive cells (or light-sources) spaced apart across the picture and each appropriated to one zone the width of which is equal to the said maximum displacement, and means for exposing the light-sensitive cells (or light-sources) successively during successive cycles of operation of the exploring device. The scanning means has a maximum displacement sufficient to cover an area which is a portion only of a given field of vision with respect to any one electroöptical element. The electroöptical elements are so disposed that each is appropriated to a different portion of the field of vision by the scanning means. The electro-optical elements are rendered operative, one at a given time, so that elements of the picture are exposed to scanning action successively.

1,807,465. **Scanning System for Television.** JOHN L. BAIRD. Assigned to Television, Limited, London. May 26, 1931. A scanning device for use in television where a rotating screen is interposed between a light source and an object to be scanned, the screen having a plurality of series of spirally arranged apertures. The apertures in the different series are spaced radially of the screen so that light rays will be passed from the light source across different sections of the object simultaneously. There are a plurality of light-sensitive devices each positioned to receive light from one of said sections of the object only.

1,807,602. **Circuit for Recording and Reproducing Sound from Film.** ARTHUR STANLEY RADFORD AND MICHAEL BOWMAN MANIFOLD. Assigned to Victor Talking Machine Company. June 2, 1931. A circuit for the reproduction and the recording of sound where two thermionic valves are arranged in opposition and having a common output circuit. A light-sensitive device is con-

nected across the input of each valve. One of the valves is subjected to variable light under modulation control by a film.

1,807,737. **Home Projector for Films of Different Sizes.** L. GOLDHAMMER. Assigned to Agfa Ansco Corporation. June 2, 1931. A home type motion picture projector having an attachment for adapting the machine to films of different sizes. A plate carrying a film guide and film sprockets is bodily removable from the projector and interchangeable with another plate. The different size sprockets and film guide are mounted on the interchangeable plates to accommodate the machine to different size films.

1,807,805. **Preparation of Colored Reproductions by Imbibition.** BERTHA SUGDEN TUTTLE. Assigned to Technicolor Motion Picture Corporation. June 2, 1931. A method of imbibition printing for gelatin films which comprises wetting a suitable printing matrix bearing the image to be reproduced in the several degrees of development corresponding to the several contrasts presented therein, with a solution containing a dye having a marked penetrability of the gelatin film to be printed and a second dye having relatively low penetrability or dispersion with respect to said film—and contacting the thus wet matrix with the gelatin film.

Multicolor films are produced using a transparent film to which there is applied a coating of a solution containing gelatin, a hardening agent such as potassium dichromate, and usually an organic acid such as acetic acid. The coating thus formed is then allowed to dry rapidly and is subsequently hardened to the desired degree. A plurality of matrix films, each bearing an image to correspond to one (or more) of the primary colors or to each of two (or more) complemental colors appearing in the reproduction to be made, is next prepared, as by suitably exposing and developing or light printing and developing a photographic film therefor. For example, where the complementary colors, red and green, are to be provided, a film matrix may be prepared and developed to correspond to the red portion of the images in the subject to be reproduced and a second matrix film may be developed to correspond to the green portions thereof.

1,808,046. **Film of Magnetizable Material for Episcopic Projection.** H. KUCHENMEISTER. June 2, 1931. A film of magnetizable material having a magnetic sound record recorded thereon. The film consists of a metal band of magnetic material having a magnetic record recorded directly thereon. The band may also carry pictures on the surface thereof for episcopic projection. The magnetic record may operate over the entire surface of the band coördinate with the record carrying the pictures for episcopic projection.

1,808,077. **Sound Picture Screen.** W. J. SCHOONMAKER. June 2, 1931. A sound picture screen comprising a woven cloth formed with interstices for the passage of sound through the screen, where the surface of the cloth is ridged to provide for the evenly diffused reflection of the picture displayed.

1,808,078. **Non-inflammable Sound Picture Screen.** W. J. SCHOONMAKER. June 2, 1931. A sound picture screen comprising a woven fabric formed with interstices in the weaving among the threads. The fabric is treated with a water-proof solution. There is a plastic non-inflammable and water-proof chemical compound applied to both sides of the treated fabric. The plastic compound covers the thread of the fabric and acts as a seal to prevent deterioration of the ingredients of the fire-proof solution from exposure to air and making the screen

non-inflammable, water-proof, and washable. The plastic compound is sufficiently thin so that it does not clog up or entirely close the interstices so that sound from a loud speaker behind the screen readily passes through the interstices.

1,808,137. **Electrooptical System for Television.** RALPH V. HARTLEY. Assigned to Bell Telephone Laboratories, Incorporated. June 2, 1931. A television system employing a separate line or channel for each elemental area of the field of view. The energy controlled by each elemental area of the field of view at the transmitter is given a distinctive characteristic, preferably a frequency characteristic such that the currents for all or many of the elemental areas may be superimposed in a single physical circuit or medium and separated again at the receiver, and each elemental area at the transmitter acts continuously in its control of its channel so that maximum illumination at the receiver is obtained. Separate piezoelectric crystals of different frequency characteristics are arranged to resonate simultaneously for controlling light in a television analyzer.

1,808,252. **Film Gate.** FREEMAN H. OWENS. June 2, 1931. The film is maintained in sliding contact with the light aperture by means of a spring pressed shell adjacent the film gate, the shell being movable with respect to the light aperture. A locking device is provided for maintaining the shell in a predetermined position with respect to the light aperture.

1,808,497. **Adjustable Support for Motion Picture Projection Machines.** A. DINA. Assigned to International Projector Corp. June 2, 1931. The projecting machine is mounted for adjustment in an angular direction in a vertical plane for aligning the projector with the screen in the theater. The patentee points out that motion picture projectors are commonly mounted at the top and rear of a theater and must be adjusted so as to project the picture downwardly upon the screen. The patentee provides an angularly disposed arm which may be adjusted both telescopically and by an expansible and contractible screw joint for obtaining the desired angular disposition of the motion picture projector.

1,808,864. **Cinema Projection Screen.** JULES E. PALLEMAERTS. May 26, 1931. A fabric base is provided for the screen with a transparent adhesive coating on the front of the fabric screen. A plurality of glass pyramids are placed on the adhesive coating with their apexes projecting from the base, and a second coating of the transparent adhesive flowed over the front surface of the screen so as completely to embed the pyramids therein. The purpose of the screen is to obtain brilliant illumination by reason of the minute reflected rays of light between the sides of the pyramids.

1,897,940. **Tone Quality Control Apparatus.** J. E. STAFFORD. June 2, 1931. The sound pick-up circuit leading to the audio frequency amplifier in a sound reproducing system is governed by an adjustable impedance circuit which controls the tone quality of the reproduced sound. The modulating circuit which may be controlled by the phonograph pick-up or a microphone circuit connects to the input of the audio frequency amplifier system. The tone control comprises a resistance connected directly across the modulated current generating source and an adjustable filter circuit connected between a point intermediate the ends of the resistance and the amplifier.

(Abstracts compiled by John B. Brady, Patent Attorney, Washington, D. C.)