ABSTRACTS OF RECENT U. S. PATENTS

1,819,047. **Portable Motion Picture Camera.** J. E. THORNTON. Assigned to J. O. O'Brien. August 18, 1931. Motion picture camera in which the film supply spool and film receiving reel are mounted in alignment at opposite ends of a camera case or frame, thus providing a long but narrow package suitable for carrying in the hand. The threading of the film through the parts of the camera is so arranged that the camera case is not appreciably wider than the film. A two-part container is provided for housing the casing, which container may be opened sidewise for providing a mounting for the camera.

1,819,327. **Eliminating Distortion and Creating Stereoscopic Effects in Motion Pictures.** G. GRIFFITH. Assigned to Griffith Camera Corp., Ltd. August 18, 1931. A projector is located in a remote position with respect to a projection screen which has an arcuate surface. The convex side of the arcuate surface of the screen faces the projector. A mechanism is provided for imparting movement to the projector in a horizontal plane and in an arcuate path concentric with the surface of the screen within predetermined limits. The mechanism for bringing about the reciprocation of the projector in an arc track is a shuttle-like back and forth movement operated from the driving motor through a lever and crank connection. The motor is timed to operate the lever and crank in synchronism with the motion picture projection.

1,819,476. **Lens Mount.** F. H. OWENS. Assigned to Owens Development Corp. August 18, 1931. A longitudinally adjustable lens holder is provided for carrying a lens. A support is provided for mounting the lens holder, and there is a resilient member engageable with the holder for locking the holder in adjusted position. The holder will accommodate lenses which may vary slightly in focal length, and will permit accurate adjustment of the focus.

1,819,492. **Taking Positives Directly on Disk of Photographic Material.** J. H. WHITE. Assigned to H. Germain. August 18, 1931. A camera employing a direct positive exposure of the image or series of images on an annular surface adjacent the periphery of a light-sensitized disk of paper or like photographic material is provided, and intermittently directed therethrough. The intermittent movement is obtained by action of a radially disposed spring secured to a radially extending arm which may be successively moved to different angular positions for a time period sufficient to effect each successive exposure. The spring is flexed as the radially extending arm moves step by step for completing each successive exposure or picture reproduction.

1,819,541. **Printer with Plurality of Copying Lenses.** H. O. CARLETON. August 18, 1931. A motion picture printing machine having a plurality of copying lenses is provided. Each lens is adapted for projecting onto a sensitized film strip an independent image similar to that on an image-bearing strip movable in synchronism. The lenses are adapted for concurrent action and each is adjustable toward and from the image-bearing film strip and the sensitized film strip. Two of the lenses are adjustable in a vertical plane up and down and to

the right and left. Three copying lenses are supported on mounts shiftable in guides. There are screw shafts fixedly secured to the guides and threadably engaging the mounts to adjustably move and focus the lenses. Three similar images are printed laterally of the film. With the apparatus of this invention a series of images carried by a film-strip of standard width may be reproduced in multiple to secure on a strip of equal width three like series of smaller images, each adapted for use in a projecting apparatus of smaller size.

1,819,593. **Simplified Camera with Special Sprocket Construction.** R. A. CLAPP. August 18, 1931. Simplified construction of motion picture camera having means for retaining the film in contact with the sprockets or feeding device for insuring positive movement of the film during the operation of the camera. This means comprises a pair of rollers, such as rubber or similar material, each provided with a pair of bifurcations to accommodate the teeth of the sprockets. These rollers are mounted in frames which, in turn, are under spring pressure or tension, thus insuring constant pressure of the rollers against the film, and of the film against the sprockets. An eccentric is provided with an arm connected at its upper end thereto. The eccentric may be rotated for advancing he arm in step-by-step movement. The arm carries prongs which engage the perforations in the film for moving the film past the aperture in a step-by-step movement. There is a shutter operated by the eccentric rotating means in synchronism with the movement of said arm to cover the aperture at predetermined intervals. The structure is intended to provide an intermittent step-by-step movement in synchronism with the operation of the shutter in a compact structure.

1,819,776. **Sound and Picture Screen.** J. C. HECK. Assigned by mesne assignments to The Da-Lite Screen Co., Inc. August 18, 1931. A screen for the reproduction of motion pictures accompanied by sound which consists of a single thickness finely woven textile fabric screen having a front light reflecting surface to receive the projected pictures, and provided with perforations therethrough in number and size sufficient to permit passage of sound waves therethrough of appropriate volume without blurring, while at the same time preserving the light-reflecting properties of such surface sufficiently to constitute an efficient screen for the presentation of the pictures, the walls of the perforations being substantially at right angles to the body of the screen.

1,819,820. **Photographic Sound Records on Rotating Plate.** E. L. KENT. August 18, 1931. Sound is recorded on a circular plate which is rotated in front of a light source disposed on one side of the plate. On the other side of the plate and in a position to receive light waves projected from the light source through the plate, in accordance with the circular paths of the sound record thereon, is a light-sensitive cell arranged and adapted to be acted upon in accordance with the change in intensity to effect reproduction of sound in accordance with the circular record on the plate.

1,819,883. **Composite Negatives for Novelty Pictures.** M. FLEISCHER. Assigned to Out of the Inkwell Films, Inc. August 18, 1931. Apparatus for producing novelties in pictures, in which a particular figure may be shown in action or in repose at any point on a background. The figure in action may be retained throughout a definite portion of a number of frames, while simultaneously showing the consecutive movements of the figure. A composite negative

is produced having a series of pictures of a background involving moving elements in different poses, by means of which a frame of the film may be projected on a screen and a selected pose of the moving object disclosed by the projected frame masked. The projected frame is photographed and then the background, except the selected pose, is masked and photographed. Then the selected poses are photographed on as many raw stock frames of the negative in a sequence, as the selected poses initially appear on the projected frames for retaining selected poses in suspended positions.

1,819,981. **Multicolor Cinematograph Film Material.** J. E. THORNTON. August 18, 1931. A film for use in the production of multicolor cinematograph or other film positives in four or three colors, in which half of a picture is formed in one layer of colloid upon one piece of film, and the other half of the picture in one layer of colloid on a second piece of film, each layer and each half-picture containing two colors interspersed or intermixed in close juxtaposition.

The film strip is initially double standard width and half standard thickness, having upon its surface two stripes of colloid running side by side longitudinally of the film, each stripe formed with a mosaic pattern therein of fine lines, dots, or grains, the strip of material being adapted to be severed longitudinally after printing, and the images printed upon one strip being superimposed upon the images printed upon the other strip.

1,820,054. **Light Guard for Motion Picture Projection Machines.** A. DINA. Assigned to International Projector Corp. August 25, 1931. A projection machine having the light beam between the projector and the film housing wholly enclosed by a shield. The projection head has an aperture opening upon which the light beam is directed. A perforated shield extends around a portion of the beam adjacent the projection head. An end wall is formed on the shield, which end wall is apertured to define the area of the light beam falling upon the aperture opening. The light beam is permanently shielded from the operator's eyes and the light concentrated on the light aperture where required.

1,820,335. **Intensity Control of Facsimile Transmission System.** O. VON BRONK AND H. RUKOP. Assigned to Gessellschaft für Drahtlose Telegraphie m. b. H. August 25, 1931. Facsimile transmission and reception system in which the sensitiveness of the picture transmission and reception system is automatically adjusted in accordance with the prevailing intensity or volume of reception. If reception is strong, the sensitivity must be made small, while the sensitivity must be great whenever the incoming signals are weak. This is accomplished by providing a receiver arrangement with an integrating action during a period which is long compared with the radio-frequency period or picture-element period (fractions of a second); for example, a simple rectifier with collecting condenser produces a direct current whose strength varies in conformity with the volume of reception, the direct current altering, for instance, by varying a grid potential, the sensitiveness of the picture reproducing apparatus in the desired manner. Since the fading or intensity fluctuations are generally of a period amounting to several seconds, such an integrating device of low inertia is capable of compensating a large part of the intensity fluctuations. At the receiving station, an amplifier is provided with its output connected to the light source of the facsimile recorder. An auxiliary circuit is provided for periodically illuminating a source of constant light intensity.

The relative intensities of the two light sources are compared. The light variations in the first source are employed also to govern the application of a bias potential to the amplifier so that the strength of the received signals is controlled in proportion to the received signals or reception at any given instant, thereby enabling the sensitiveness of the receiver to be controlled accurately.

1,820,418. **Camera for Obtaining Relief Effect.** C. WILLIAMS. August 25, 1931. A motion picture camera for photographing an object from two different angles in the same horizontal plane or in different planes so that when the photographs are projected in rapid succession in the usual manner, a "relief" or "perspective" effect is produced to impart to the object seen an appearance of reality or solidarity. The camera includes an optical chamber with a lens disposed within the chamber. The optical chamber lens and motion picture film, which is driven in the path of the lens, are moved synchronously as a unit to different positions for making exposures of the object from different angles.

1,820,484. **Focusing Lens Mount.** F. H. OWENS. Assigned to Owen Development Corp. August 25, 1931. A focusing lens mount which comprises a lens holder and a longitudinally adjustable carrier. The carrier provides a coarse adjustment for the lens holder. There is a supporting means in which the carrier is rotatable for effecting longitudinal adjustment of the holder which, when once adjusted, is then locked in position. A fine adjustment is also provided for the lens holder for precision focusing of the lens.

1,820,731. **Rewinding Mechanism.** M. DAINOW. August 25, 1931. The reels carrying the motion picture film in a home type portable projector are provided with crank members which may be moved to a projected operative position or to an inoperative position to permit either of the reels to be used alternately as a driving reel or a take-up reel. Each reel is provided with a hinged member constituting a crank handle which is pivotally mounted on the reel. When the crank is moved to an extended position it may be used for driving the reels. However, when the crank handle is restored to the housed position it serves to lock the reel on the shaft as a supply reel permitting the film to be unwound therefrom to a take-up reel.

1,820,739. **Motion Picture Collapsible Screen Frame.** J. T. HECK. Assigned to Da-Lite Screen Company, Inc., by mesne assignments. August 25, 1931. A projection screen which can be folded into a relatively small rectangular carrying case and carried upon a spring actuated roller therein. The screen is mounted upon a spring actuated roller and is provided with hinged link members which serve as struts for holding the screen taut for projection purposes. The struts are each mounted under spring tension to enable the screen to be stretched for the exhibition of pictures.

1,820,959. **Safety Device for Motion Picture Projecting Machines.** T. T. ALLEN. Assigned to Sentry Control Corp. September 1, 1931. A safety attachment for motion picture projectors wherein a switch is mounted upon a plate member adapted to be arranged at predetermined spacial relation with respect to the framing plate. The switch is operated by a centrifugal drive for opening its contact, in the event of breaking of the film, for cutting off the driving motor circuit and operating the shutter for the protection of the film against fire, pending repair of the mechanism.

1,821,399. **Apparatus for Indicating Printing Light Values.** F. H. OWENS.

Assigned to Owens Development Corp. September 1, 1931. Photographic films used in the production of motion pictures may be provided with a test gauge for determining the proper light value to be used in printing films. The film is moved past a printing station and is subjected to the exposure from a printing lamp through a graduated strip on a test portion of the film. An exposure is thus made on the film which, when the film is developed, comprises sections of graduated densities inversely corresponding to the sections of the graduated strip through which the exposure is made. The film is thus provided with a test strip which may be used as a basis of comparison with the exposures on the film for determining the printing light value to be used in printing the film.

1,821,416. **Method of and Apparatus for Picture Transmission.** E. BELIN. September 1, 1931. A circuit for transmitting picture modulations for facsimile transmission and reception wherein the picture modulations consist of non-oscillatory electrical variations for controlling a translating mechanism. An oscillator is arranged to generate waves of a frequency sufficiently low to actuate the translating mechanism. These low frequency oscillations are modulated with picture modulations and are then utilized to control the carrier wave. At the receiver the low frequency modulated currents are used to operate a recorder for reproducing the picture modulations effected at the transmitter.

1,821,515. **Device for Protecting Films against Ignition.** K. HOFFMANN, *et al.* Assigned to Zeiss Ikon Aktiengesellschaft, Dresden. September 1, 1931. An automatic protecting device for films, which device is actuated for automatically protecting films against ignition in the event that the film should break. A protecting shield is shifted between the projection window and the light cone as soon as a break in the film band occurs, and the movement of the shield operates a switch controlling the motor operation. Means are provided to allow a resetting of the parts into their original operative position as soon as the break in the film band has been repaired.

1,821,538. **Method and Means for Producing Illuminated Motion Effects.** H. B. BARKER. September 1, 1931. A pictorially decorated translucent front wall is arranged across an advertising sign, behind which there are arranged sets of heat motor devices, each of which carry cylindrical screens having markings thereon for producing variable pictorial representations upon the advertising sign. The rotary screen which is driven by a heat motor has lines inclined horizontally and at an angle for directing upon the advertising sign successively variant light rays which produce a pictorial effect on the front of the screen for arresting the attention of an observer.

1,821,557. **Apparatus for Producing Motion Picture Effects.** A. B. LEECH. September 1, 1931. An advertising sign which includes a heat operated motor which drives a cylindrical screen through which light is projected upon an object screen for producing the illusion of motion traveling in a direction opposite to the direction of movement of said movable screen. The movable screen carries inclined opaque lines thereon, which lines are alternately disposed with respect to transparent lines. Light is passed through the movable screen and through the lines to an object screen for producing various illusions.

1,821,626. **Method of Producing Projection Pictures.** F. FLEISCHER. September 1, 1931. Apparatus for advertising and entertainment purposes in

which motion pictures may be projected upon an inclined transparent reflecting surface opposite an observing window through which the motion pictures may be observed. A plurality of spaced parallel transparent picture carrying plates are exchangeably positioned on one side of the angularly disposed reflecting surface in the chamber. A source of light is adjustably positioned behind the picture plates so as to send its rays through them toward the reflecting surface. There is a projecting surface for projected pictures substantially disposed at a right angle to the picture carrying plates. A motion picture projector is arranged behind the projecting surface for producing motion pictures on the projecting surface which may be viewed by reflection from one side of the reflection surface on which the reflection of a stationary picture from the plurality of picture carrying plates already appears. By this association of a transparent reflecting plate with the stationary picture reproduction superimposed with motion picture reproduction, the observer sees a delusion picture intended to arrest the attention and usefully perform its service as an advertiser.

1,821,630. **Regulator for Sound Reproducing and Synchronizing Machines.** C. H. GARRETT AND B. G. HERBER. September 1, 1931. Gearing for synchronizing the operation of a phonograph record turntable with the movement of a picture film for synchronously reproducing sound from the photographic record with respect to the projection of pictures. The phonograph turntable has an internal ring gear. A vertically disposed shaft having a driving gear thereon is mounted so that the driving gear imparts motion to the ring gear through an intermediate gear. There is a bushing surrounding the vertical shaft with a ring extending around the bushing, the ring having an integral arm extending therefrom and affording a bearing for the intermediate gear. Spring means are provided on the arm to relieve the tension of the ring with respect to the drive shaft at the same time that the intermediate gear is permitted to shift in position about the main drive gear. The frictional governor applied to the main drive shaft is varied whenever it is desired to bring the phonograph into synchronism with the motion picture projection and without removing the stylus from the sound record.

1,821,680. **Multiplex Film and Process of Making.** L. T. TROLAND. Assigned to Technicolor Motion Picture Corp. September 1, 1931. A film is provided having a series of complemental images, two images of each complemental set being taken from the same point of view at the same time, and a third image of each set being taken from the same point of view at a slightly different time. The records on the film give red, green, and blue color aspects. The red and green records representing simultaneous aspects are reversed with respect to each other, and the blue records represent alternate aspects. The respective images of each complemental set are substantially alike, so that they may be accurately registered with respect to each other without noticeable color fringes. This method is intended to minimize the registration difficulties due to shrinkage and expansion of the film, which affords a short distance between objective and film, and which permits the use of film in one or more strips for the several series of images.

In the case of rapidly moving objects, the pictures formed through the filters at successive intervals of time will not register precisely, resulting in a tendency toward color fringes; but by taking the red and green records simultaneously

they will register exactly, and when using only a single additional color such as blue, fringes will not be noticeable for the reason that the blue record, which is colored yellow in the final picture, does not contribute largely to the definition of the picture; and to a lesser degree, the same is true of the blue-green record in the four-color example.

1,821,698. **Light Indicating System and Method.** G. R. FISHER. Assigned to Federal Telegraph Co. of San Francisco, Calif. September 1, 1931. A circuit responsive to variations in light intensity wherein an impedance which changes its resistance under the action of variable light rays is connected in circuit with an electron tube. The tube is adjusted to a critical condition of oscillation so that a substantial decrease in light intensity falling upon the tube will initiate an uninterrupted current flow through the tube. The circuit associated with the tube has its values so adjusted that substantially no oscillatory current flows for a given light intensity while for a slightly decreased light intensity oscillations can be initiated. The light operated circuit may be used wherever it is desired to operate a circuit upon a decrease in light intensity below a predetermined level.

1,821,775. **Film Controlled Switch.** H. C. TITTLE. Assigned to General Electric Co. September 1, 1931. A switch device is operated by the film as it reaches the end of the reel for reversing the driving motor for effecting a rewinding of the film without removing the film from the projector. The switch mechanism comprises a roller mounted upon a stud, the film passing over the roller and engaging flanges at opposite ends of the roller. One of these flanges is arranged under spring tension in such manner that the flanges tend frictionally to engage opposite edges of the film. One flange is mounted under axial spring tension, and is adapted to shift a contact under conditions of axial movement of the flange. This axial movement is effected adjacent the end of the path of travel of the film by reason of a cut away depression in the edge of the film adjacent the end of the path of travel thereof. As the contact is closed a reversal of the driving motor circuit is effected for obtaining a rewinding operation for the film without removing the film from the projection machine.

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