

ELECTRONICS

# Projection Television

When you go to the movies some day in the future, you may see the news as it happens instead of a news reel which pictures news several days old.

► MOTION picture engineers gathered at the fall meeting of the Society of Motion Picture Engineers. The significant thing about the meeting as a whole was that these experts, who carry the burden of recording on film every thing you see and hear at a movie theater, showed remarkable interest in problems which the average person might think divorced from their primary field.

Many of the more than 20 reports presented dealt with such subjects as television, printing, airplane vibration analysis, in addition to reports on new cameras, films, and theater projection problems.

One day in the future you may see the news as it happens instead of a news reel, which pictures news several days old, when you go to a movie theater. Television pictures large enough to be viewed by theater audiences and larger television pictures for home viewing were discussed by D. W. Epstein and I. G. Maloff, of the Radio Corporation of America.

These larger pictures are made possible by producing a small and very brilliant television picture and projecting the picture through a lens onto an ordinary movie screen.

The authors stated that the cathode-ray tube which is used in every modern television receiver to pick up pictures has been found to be the most practical means of originating the television pictures for projection. The problem of providing a cathode-ray tube capable of producing very bright pictures has been solved largely by the development of high-voltage cathode-ray tubes, they revealed.

Reflective optical systems, the authors stated, are to date the most effective for picking up the largest possible amount of light from the pictures on the cathode-ray tube. This system consists of a spherical mirror which reflects the image from the cathode-ray tube to an aspherical lens, through which it is projected on the screen. Television pictures ranging from 25 inches to 25 feet across diagonally have been developed, they declared.

The handicap of this optical projec-

tion system, for use in a home projection receiver, has been the high cost of the aspherical lens. The development of a process for molding aspherical lenses from plastics overcomes this problem.

Present television receivers, with 10-by-10-inch cathode-ray screens, need no optical projection system, as they are large enough for viewing at close range in the living room by three or four people. Where the audience is larger, television pictures two feet high can be projected like home movies, for viewing at a distance of about 10 feet.

*Science News Letter, October 28, 1944*

## Reflex Camera for Movies

► A NEW 35 millimeter reflex camera for taking motion pictures, permitting the camera man to view exactly what he

is taking, was described to the meeting by Art Reeves, of Hollywood, Calif. The camera finder or viewer is attached to the lens system of the camera, so that the cameraman views the subject being photographed through the same lens that is taking the picture.

Designed for military and commercial production purposes, Mr. Reeves stated that the camera is lightweight, compact, and motor driven. The reflex principle has been used for many years in still cameras.

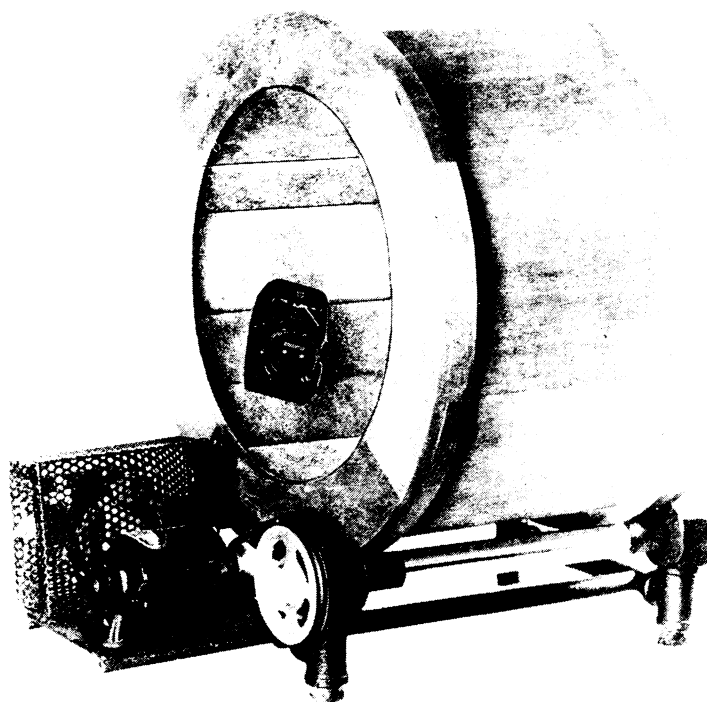
*Science News Letter, October 28, 1944*

## 8,000 Pictures a Second

► THE SUCCESSFUL design of a high-speed motion picture camera that is capable of taking up to 8,000 pictures a second was revealed at the meeting by H. J. Smith, of Bell Telephone Laboratories, Inc. The pictures taken are 8 millimeter size taken on 16 millimeter films and can be viewed with any standard 8 millimeter projector.

The camera will probably be used to make ultra-slow motion pictures that stop the action of such fast moving subjects as airplane propellers, gas turbines, and so on, for technical analysis.

*Science News Letter, October 28, 1944*



**ROUGH HANDLING**—To guard against possible damage from rough handling, exposure meters must be built to stand the effect of being placed in this tumbling barrel, revolving at 60 rpm, for one minute. American Standards Association photograph.