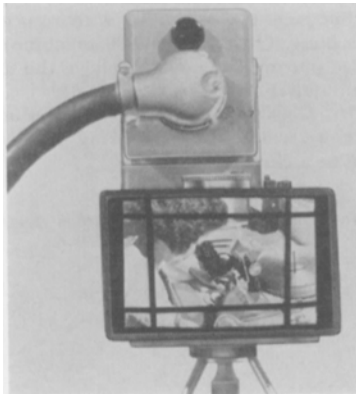


**Fig. 2. Monitor with framing system used in Mitchell Viewfinder.**

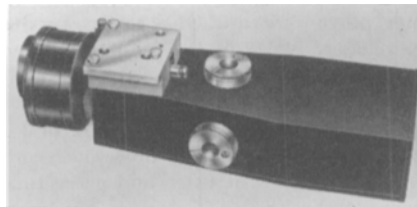


**Fig. 3. Framing on TV monitor and viewfinder checked before shooting.**

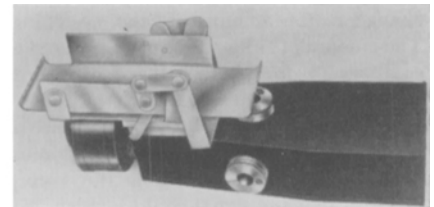
the new camera was designed to be mounted on top of the Mitchell Viewfinder and compensate for the vertical parallax mechanically, in the same way that the horizontal parallax is solved on the viewfinder.

This device has only one purpose, that of allowing the director to evaluate composition. It is not intended to be used in judging photographic quality.

The new camera, which was developed by Photo Research Corp. is 2½ in. square and 7½ in. in length, reproduces



**Fig. 4. Plate fastened to aluminum casting of viewfinder.**



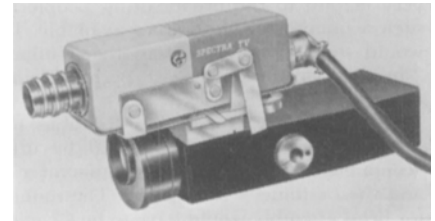
**Fig. 5. Removable shoe attached to plate.**

600 lines of definition at 10 ft-c. This represents double the resolution of home-type TV sets (Fig. 1). The small control unit is placed on a camera dolly. The monitor can be placed 500 to 1000 ft from the camera. Any number of monitors may be used. The system uses standard TV frequencies, i.e., 60-cycle frame rate; 15,750-cycle line rate; 525 raster lines interlaced. Power requirement is 60-cycle 115-v a-c. The camera is ruggedized for high vibration and noise environment and shock tested to 20 g.

To compensate for different lenses, the framing system used in the regular Mitchell Viewfinder was incorporated into the monitor (Fig. 2). It was found that by checking the framing between the TV monitor and the viewfinder on the camera before shooting close correlation could be achieved (Fig. 3).

Only two steps are necessary to attach the miniature camera to the viewfinder. First, a plate, which remains permanently in place, is screwed to the aluminum casting of the Mitchell Viewfinder (Fig. 4). Second, an easily removable shoe is attached to the plate (Fig. 5). The vertical parallax compensation is taken care of automatically by utilizing the focusing rod of the viewfinder (Fig. 6).

The system is economically priced and achieves the purpose of enabling a motion-picture director to see the picture he is directing on a TV monitor. It is especially useful as an aid to making decisions on re-takes when a multiple camera setup is used or when the cam-

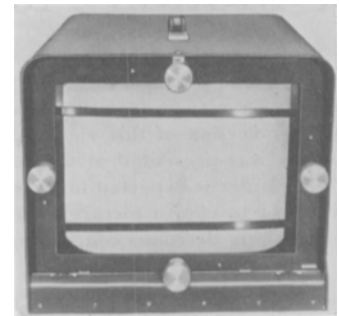


**Fig. 6. Camera in place on viewfinder.**

era is mounted on a boom. The system should also be useful in live TV productions, shooting with motion-picture cameras.

This system may also be used in underwater photography. The housing measures 4 in. by 10 in., with remote focusing adjustment.

The device is expected to afford substantial assistance in reducing the high cost of production.



**Fig. 7. Framing for Cinema-Scope.**

## Addendum

Leo Levi, "High-Fidelity Video Recording Using Ultrasonic Light Modulation," *Jour. SMPTE*, 67: 657-661, Oct. 1958. The following is information received from Mr. Bach since publication of the October *Journal*, for his contribution to the Discussion which followed the above paper — p. 661, col. 3, last paragraph:

*Walter Bach (Berndt-Bach, Inc.):* I would like to make a brief statement on printing and slippage. About 25 years ago, C. N. Batsel of RCA presented a paper entitled "A Non-Slip Sound Printer" (*Jour. SMPE*, 23: 100-107, Aug. 1934). Then, about 20 years ago, E. W. Kellogg of RCA presented a paper on "Reduction of Loop-

Length Variations in Non-Slip Printers" (*Jour. SMPE*, 30: 136-149, Feb. 1938). In New York we spent a number of years in further developing these non-slip printers for optical soundtracks on 16mm film. These prints completely eliminated slippage—even though the

negative is shrunk and the positive isn't. We were able to print up to 10,000 cycles on 16mm soundtracks running 36 ft/min, with no degradation on the prints whatsoever. This would be equivalent to printing and reproducing 25,000 cycles on 35mm film running at 90 ft/min.