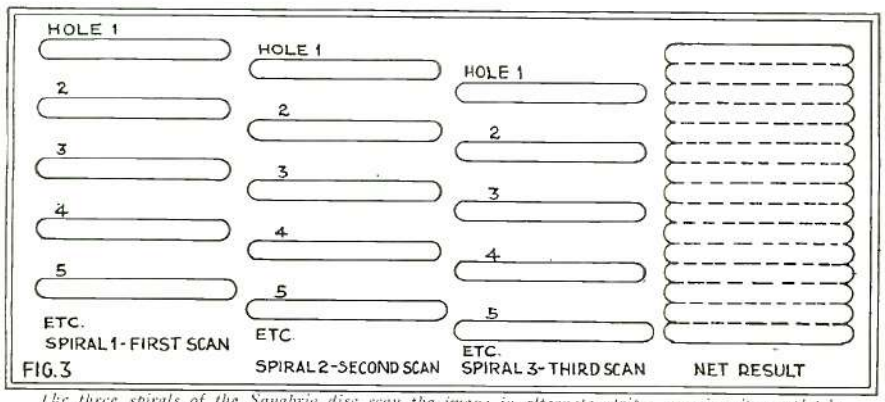


FIG. 3

The three spirals of the Sanabria disc scan the image in alternate strips, covering it completely at every revolution, however, just as do the other types of disc in use.

swept by the neon glow-lamp. It also retains both the first and second "scans" while the third spiral is active. The net result, as far as the eye is concerned, is a complete image built up of closely-adjoining beams of light.

The illusion of solidity produced by this arrangement of spirals is very effective in that the received images are not at all badly streaked. Of course, we cannot expect something for nothing: the images are not perfect, and some streaks are evident, but considering the extremely important fact that the image impulses *do not exceed 5,000 cycles*, the results must be considered quite good. With the 15-image-a-second rate, the subject at the transmitting end can move from side to side without fear of having his image at the receiving end look like a slow-motion comedy scene.

At the New York radio show Mr. Sanabria showed the usual 1½-inch-square images built up on the plate of a neon-gas glow-lamp, with only the head and part of the shoulders of the subject visible. However, in his own laboratory in Chicago he has been able to show the entire figure of a man, without making any changes in the apparatus. The scanning light is sufficiently powerful, and the photoelectric cells sufficiently sensitive, to make this feat possible. The image of the man at the receiving end is very small, but his whole form may be seen.

SIGHT AND SOUND TOGETHER

One of the interesting experiments Mr. Sanabria performed in Chicago, just before leaving for the New York exhibition, was that of transmitting both voice and images on the same 5,000-cycle broadcast channel, *at the same time*. At the transmitting end he simply connected the microphone in one of the intermediate stages of the audio amplifier working with the photoelectric cells. At the receiving end he inserted a low-frequency filter in the plate circuit of the last audio amplifier tube, with the loud speaker in the proper position in the circuit.

It is possible for this simple system to work only because the voice frequencies are comparatively low, and the image frequencies relatively high. The voice impulses do tend to break up the images at times; but the experiment was performed with marked success. In fact was actually tried "on the air;" and several experimenters in Chicago reported that they were able to reproduce the voice and images simultaneously.

It is obvious from the foregoing description of the Sanabria television system that a special receiving disc is necessary. The 48-hole disc which has become virtually the standard for television work, for no reason at all, will produce no results. By the time this magazine appears inexpensive three-spiral discs undoubtedly will be available.

Several Wavelengths Used for High-Frequency Radio Movies and Television

STATION WIXAY, located at Lexington, Mass. (near Boston), is now broadcasting both television and "radio movies" on a wavelength of 61.5 meters, a 48-hole disc, revolving at 900 revolutions per minute, being used. This station has been authorized by the Federal Radio Commission to use a wide modulation band for experimental purposes. No definite schedule of transmission has been given; but owners of short-wave receivers can easily pick up the signals and learn the schedules from the broadcast announcements.

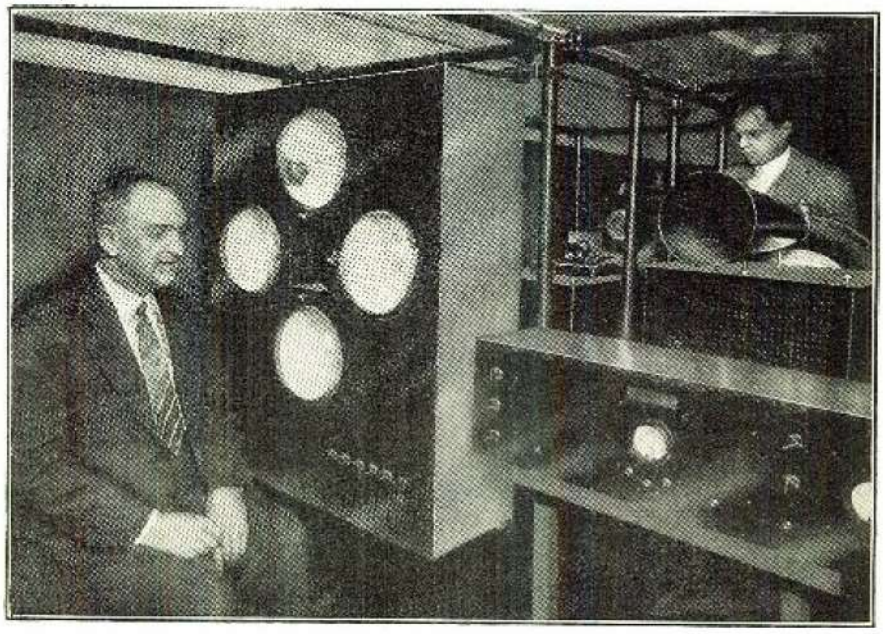
The transmitter of WIXAY (which is a companion station of WLEX) is rated at 500 watts, and was designed especially for radiovision work. It should be heard without trouble in most parts of the United States and Canada. Alfred J. Poté, formerly in charge of the experimental laboratory of the Raytheon Manufacturing Company, of Boston, is chief engineer of the station and the designer of the television apparatus.

As the studios of WIXAY-WLEX are located in the same building housing the short-wave transmitter, it will be possible to broadcast the images of performers, either before or after they appear before the microphone. The television transmitter has been built in semi-portable form; so that it may be wheeled from one room to another. It is Mr. Poté's plan to cut a hole in the wall of the main studio and to stand the televisor inside this; so that the apparatus will not crowd the studio itself.

For the "radio-movie" transmissions, specially prepared motion-picture film will be used. RADIO NEWS will publish further details of the apparatus, and will give the full transmitting schedules, as soon as the information is released.

THE Jenkins "radio movies" are now being broadcast on 186 meters, in addition to the 46.72-meter transmissions, announced on page 420 of the November number of RADIO NEWS. This wave falls a little short of the tuning range of most broadcast receivers; but it can be tuned in with the biggest coil of the usual plug-in-coil short-wave set. If you cannot pick up the 46.72-meter signals, because of "skip-distance" effects or merely because of your location, try the higher wave.

The "radio movies" are broadcast on Monday, Wednesday and Friday nights from 8:00 to 9:00 p. m., E. S. T. Announcements are made in both phone and code; the call letters of the station are W3XK. The Jenkins Laboratories, from which the transmitting is done, are located at 1519 Connecticut Ave., N. W., Washington, D. C.



Above, left, A. J. Carter of the Carter Radio Co. being televised by the transmitter which U. A. Sanabria is operating. This apparatus was exhibited at the radio shows held recently in New York and Chicago. The "checking" receiver appears at the right.