

Mystery of "Talkies" Is Revealed by Mgr. Smith

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them discriminatingly critical of the difference between good and bad sound, he said. It is for this reason that the management of the new Grand theatre asked engineers from the great R.C.A. Victor engineering laboratories to install their latest achievement in sound motion picture reproducing systems. This sound system has been named the "Magic Voice of the Screen," because of its remarkable capabilities.

Explains Reproduction

"It is surprising," Manager Wendell Smith said this week, "how many people will ask, 'What makes the talkies talk?' The process is extraordinarily interesting and not as hard to understand as one might suppose."

"To begin with, the sound you hear in the theatre comes from a narrow strip of 'sound-track' which runs parallel to the pictures on the films. This sound-track has a curious fluctuating pattern which varies in accordance with the pitch and volume of the sound. Now, actually,

sound cannot be photographed, so what the recording engineers do is to convert the sound waves of the singing or speaking voice, or of music and back-ground effects, into electrical waves and then into light waves during the recording process.

"This sounds much more complicated than it is. But to put it simply, this is how it is done. The motion picture studio is a good deal like a radio studio. The sound is first picked up by a microphone, which converts the sound waves into corresponding electrical waves very much the same way as the telephone receiver does. The electrical waves are then amplified to sufficient strength to make them vibrate a tiny mirror. These vibrations correspond exactly to the characteristics of the original sound waves. A bright light is then

focused on the mirror so that its vibrating reflection strikes the film negative. Now we have the light waves which can be photographed — and the wavy fluctuations of the sound-track are the result.

Use 'Electric Eye'

"The producing process in the theatre is simply the reverse of the recording process," continued Smith. "The film is threaded into the projector and the motor started up. The film then moves at exactly the same speed at which it was recorded. A beam of light is then directed through the sound-track portion of the film. The variations in the sound track picture cause variations in the amount of light passing thru the film. This fluctuating light is focused on a photo-electric cell.

"The photo-electric cell is a

marvelous little device resembling a radio tube which is often called an electric eye. This cell is extraordinarily sensitive to light and as the light waves strike it, it regulates the flow of electrical current in exact proportion to the amount of light passing through it. The electric current thus produced is built up in volume by amplifiers and made to operate the loud-speakers, which are situated behind the screen.

The screen itself has tiny perforations to permit the unimpeded flow of sound from the speakers and yet send a smooth reflecting surface for the projection of the picture. Thus we have, in a few seemingly simple, yet in reality highly critical stages, the miracle of the modern sound motion picture," Smith concluded.



IN PERSON . . . Here is Ralph Byrd, star of "Down in Arkansas" which opens the new Grand theatre here tonight. He will appear in person on the stage, according to the management.

Early Fire Season
Lack of rain fall in California mountains has resulted in the forest fire season starting a month ahead of schedule and warnings of an unusually dry summer have been issued.



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