

## Talkie Technique.

a series of pictures, each differing slightly from the previous one, so that the illusion of a continuous movement is created.

Undoubtedly the greatest advance made by the motion picture industry was in the period about eight years after the Great War when the «talkie,» after many years of research and disappointment, was introduced.

The innovation was to them merely a linking of a gramophone record to synchronise with the visual picture and as can be quite realised and by some remembered, this method produced many difficulties. In the absence of single control, that is with the visual picture and the record, synchronisation was truly an art in itself, while it can also be appreciated that should the film have required censoring, the process of eliminating the corresponding passage on the record presented many worries. In addition, a break in the film required an exact synchronisation on the resumption of the screening.

### PERFECT ANSWER.

The modern «talkie» has eliminated all this and the introduction of the sound track has undoubtedly supplied the perfect answer. When the film is being made in the studio, a microphone turns the sound vibrations, that is the voice, music, effects, etc., into sympa-

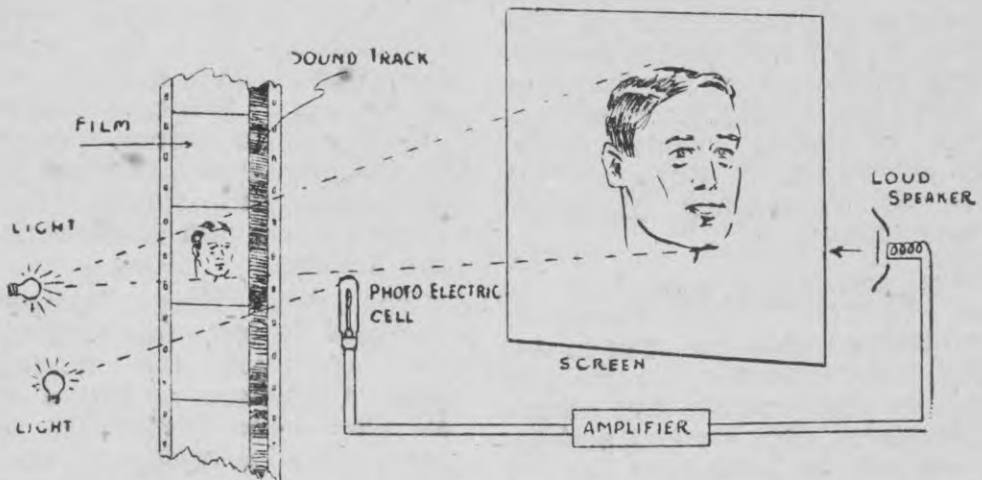
thetic electrical current vibrations and these, passing through a neon type lamp—as shown in the diagram—give varying light intensities which in turn are projected on to the sound track space of the film.

The sound track is usually on the right side of the film looking from the projection box. When the film is developed and fixed, light and shade intensities, called the sound track, are produced.

The reproduction of the sound picture in a theatre requires a complicated and ingenious machine. Strong projection light is required for the visual film and, in addition, light is transmitted through the sound track. These varying intensities of light are impinged on a photo-electric cell, forward of the sound track, as in the diagram.

This photo-electric cell comprises a type of valve with a light sensitive element which emits an electric current also varying in a direct ratio when exposed to varying intensities of light.

The final stage is reached when these varying intensities of electric currents are amplified and transformed into sound waves by the speaker concealed behind the screen reproducing for the audience an exact replica of the sounds and effects made in the studio.



### TALKIE PRINCIPLE OF REPRODUCTION

*SOUND TRACK is never opposite appropriate frame. Picture moves in jerks. Sound must be continuous.*