

THEREMIN "TERPSITONE" A NEW ELECTRONIC NOVELTY

By means of Prof. Theremin's latest device, a dancer may create music by the movements of her body. A capacity device in the floor is mainly responsible.

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THE inventive genius of Professor Leon Theremin has at last justified a famous poet in his license. Many years ago, Tennyson wrote:
—*"The dancers dancing in tune."*
And a distinguished musical critic commented: "That would be beyond the abilities of the young lady of Banbury Cross" who, as will be remembered, had *"rings on her fingers and bells on her toes."*

But by the new electrical system of Theremin, which depends, like the original device named for him, on the phenomenon known as "body capacity," it is possible for a dancer to dance in tune as well as in time. In place of the rods used in the first "Theremin," there is an insulated metal plate beneath the dancing floor. As the dancer bends toward it, the electrical capacity is increased, and thereby the pitch of an oscillating tube circuit is lowered; as she rises on tiptoe, for instance, the pitch of the oscillator is increased. The output of this oscillator is beat against that of another of fixed tune, producing an audible (not superhet.) frequency and this is amplified and fed into a large, square reproducer. Thus the motions of the danseuse are converted into tones varying in exact synchronism with her pose. In fact, the motion of either an arm or a leg is sufficient to

produce a noticeable change of tone. The loudspeaker used to give this individual tone interpretation of the dance is supplemented by another, reproducing a background of the theme music previously selected.

It need hardly be said that there is a great deal of scope for individual talent in coordinating bodily movements so that the sounds thus produced will not only fall pleasantly upon the ear, but also combine harmoniously with the preselected phonograph records. In other words, this is a field of pure artistry.

Another feature combined with it is an automatic colored light accompaniment. The "visual note indicator" is a panel of lamps of different colors. This, however, is accomplished by a method partly mechanical; a tuned reed behind each lamp vibrates when its corresponding note is sounded, and thereby closes the circuit lighting its lamp. Thus the notes evoked by the artist's motions are shown by lights flashing simultaneous up and down the
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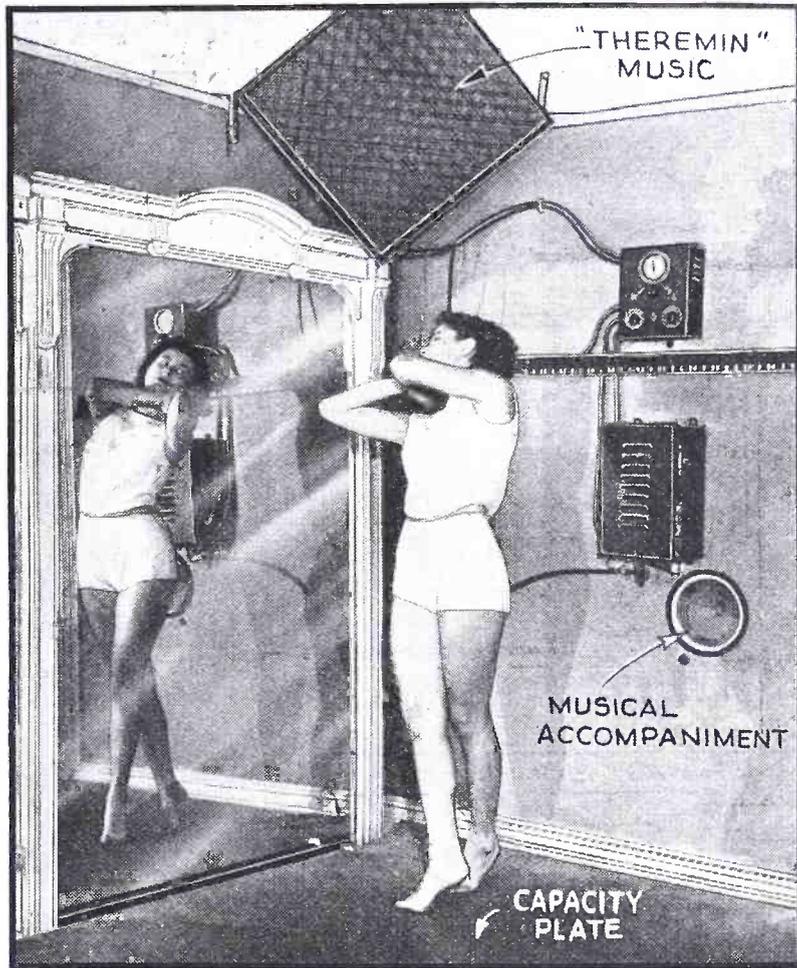


Fig. A. The speaker above the dancer reproduces the musical tones.

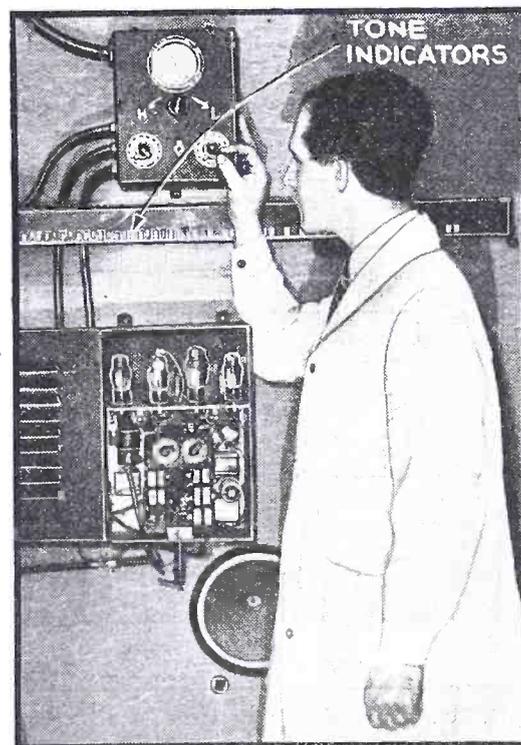


Fig. B. Prof. Theremin adjusting the controls.

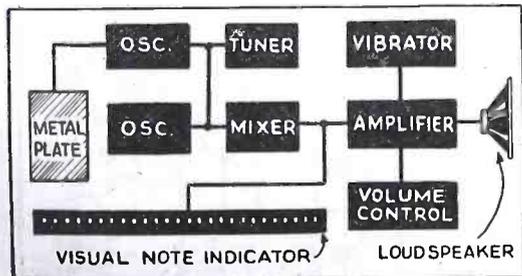


Fig. 2. Two oscillators, one fixed and the other varied by the dancer's body capacity, feed into a common amplifier, controlled by a system of vibrators to produce tones of the "piano" scale from the oscillator frequencies (in other words, the vibrators which are tuned to notes of the chromatic scale limit the musical accompaniment to notes of this scale). Pilot lights indicate these tones as they are produced.

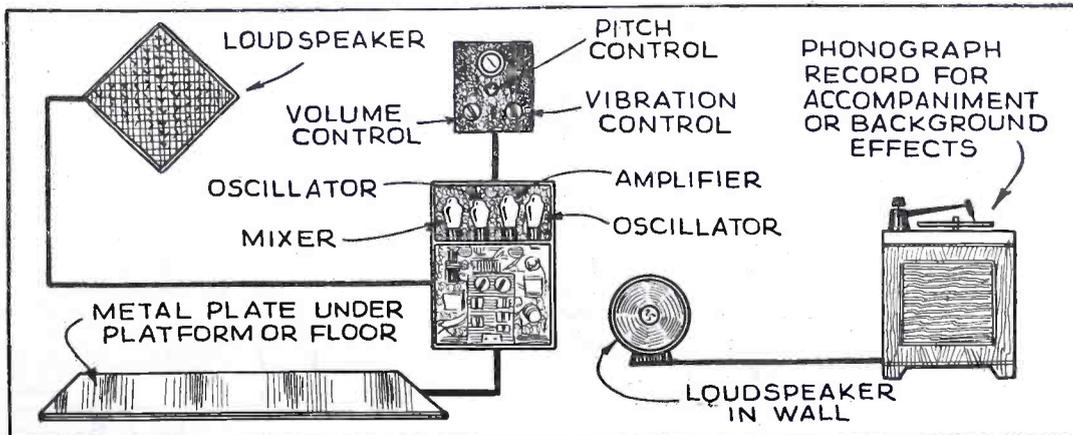


Fig. 1. The components of the system, including the phono. unit which is used for background effects.