

# Acoustics of Plaza Theater Found Perfect

Sound engineers, completing tests on the new RKO Plaza Theater on State street opposite Crescent Park, late yesterday afternoon pronounced the auditorium acoustically perfect. The Shapiro Construction Company, the general contractor, is now awaiting the arrival of Joseph Plunkett, vice-president of Radio Keith Orpheum, John Ebersson, the architect who designed the theater, and Lou Golding, division manager of RKO, expected in town on Monday, who will inspect the house and look over the results of the sound engineer's tests. If the auditorium is accepted, the Shapiro Company will be released from a bond for \$150,000 which it posted when it took the contract, guaranteeing that the house when finished would have perfect acoustics.

Building a theater acoustically perfect in this day of talking pictures is an art in itself and requires special information and training in the work. John Ebersson, nationally known theater architect, who designed the new RKO Plaza, and his assistant in charge of construction here, Harlow Wheeler, are experts in theater sound control and the work they have built into the theater easily passed the most rigid requirements of the sound engineers in the inspection yesterday.

The sound requirements of the modern atmospheric theater extend even to the type of paint used on the walls. Laboratory tests have shown that oil paints have a high reflecting quality and the use of them on the walls and ceilings of an auditorium has been known to cause what is known as "fuzz" in the reproduction of sound films.

In connection with the finishing and decoration of the theater more than 2,000 eggs, or rather the whites of the eggs were used on the blue dome in the auditorium alone. This seems like a fairy story at first glance but it must be remembered that the only paint that can be used in the modern theater is tempera, a preparation of dry pigment in appropriate colors, mixed with white of egg. This technique was discovered more than 1,000 years ago by the old masters of Greece and Italy, many of whose frescoes have come down to the present time in perfect preservation on the walls and ceilings of cathedrals and palaces of the old world. Many of the greatest paintings in the history of the world have been done in this manner and it is only through this technique that the work of Raphael, Leonardo da Vinci and other great masters has been preserved.

Tempera was used on the dome of the new RKO Plaza not only because it lasts longer, retains its colors better and is acoustically acceptable, but also because only through the use of tempera could gorgeous deep glowing blue of the Spanish night skies be duplicated in the arched dome of the auditorium.

The Spanish walls, niches and designs of the sidewalls have been polychromed in two tones of plaster finished roughly and with one colored plaster placed over another to get the brilliant contrasting colors necessary in the scenic background of a theater of this modern atmospheric type. The whole effect is pleasing and harmonious.