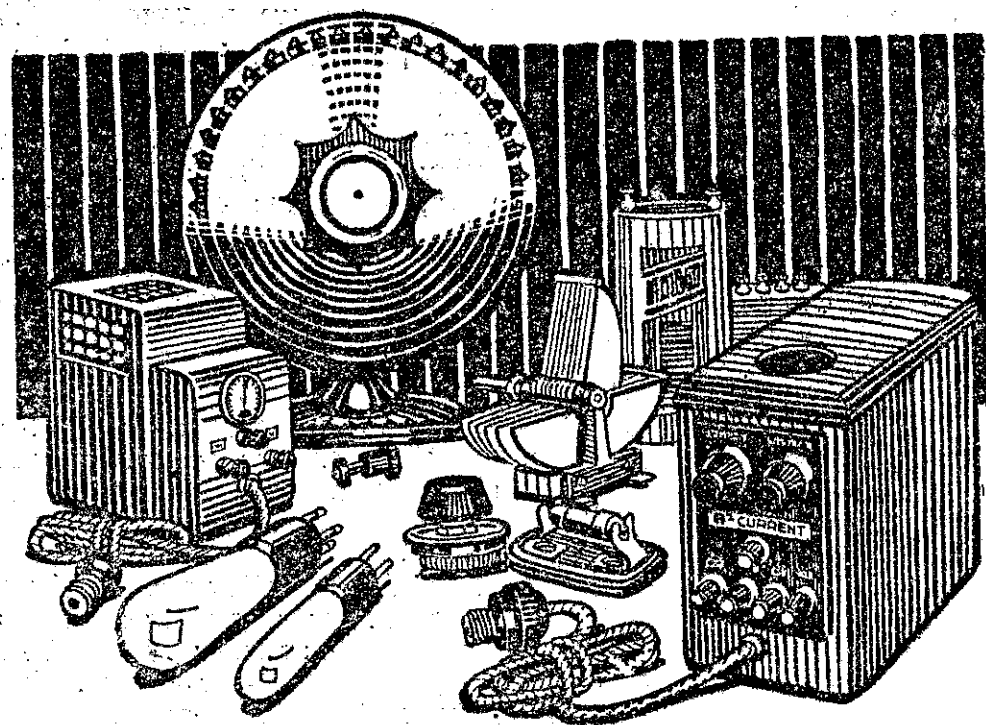


ity of studio items and important re-lays.

Transmitting Plant.

THE transmitter is located in a specially built room on the roof of

the building, and consists essentially of four pieces of apparatus—the motor generator, power plant, transmitter, and speech input equipment. The motor generator set consists of three units—a



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Radio 3

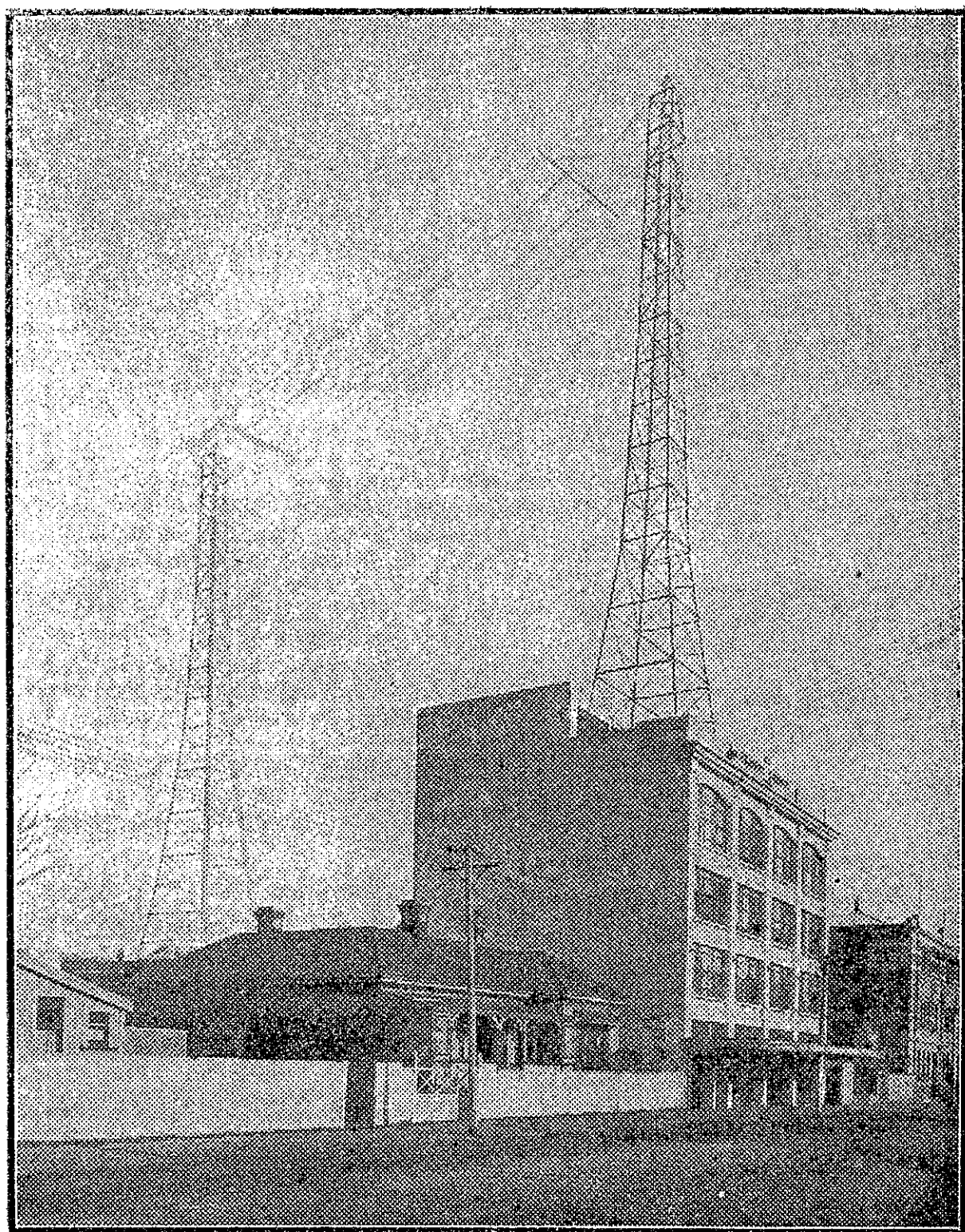
5.5 h.p. three-phase motor, directly coupled to a 1600 volt, 1.25 ampere generator for plate supply, and a 16 volt, 3.6 ampere generator for filament lighting. The whole generator unit is fixed to a concrete bed, set on rubber, which very effectively prevents any noises being communicated to the rooms underneath. The motor generator set is contained in a partitioned-off portion of the transmitter room, this portion also containing the battery charging apparatus and the Edison A and B battery sets, which are used for the amplifier equipment.

In the larger portion of the transmitting room are the three other units. On the right is the speech input equipment, which consists of a rack on which are mounted the various meters, amplifiers and switches for keeping check on and controlling the music which is picked up by the microphones in the studio. This equipment is of a highly important nature, as it is here that the minute currents delivered by the microphones are amplified to an extent sufficient to modulate the transmitter. On the main or "8B" amplifier is mounted a "gain" control, by means of which the operator regulates the volume level of the amplified signal. Immediately above this amplifier is also another amplifier, but this one is used merely to operate a loudspeaker for keeping an

accurate check on the quality of the transmission. By means of a small key switch it is possible to connect the loudspeaker directly into the radio transmitter or on to this amplifier, and by changing alternately from one to the other, comparisons can be made between the signal going in to the transmitter and the signal going out of the transmitter, and observations made to see if there is any distortion actually occurring in the transmitter itself.

IMMEDIATELY alongside the speech input equipment is the transmitter proper, consisting of the filter system, oscillating and modulating circuits, and antenna tuning system. The valves employed consist of two oscillators, and two modulators, each of nominal rating of 250 watts capacity, together with a speech amplifier valve of 50 watt capacity. The oscillating circuit consists of a modified three-coil Meissner capacitively coupled to the antenna through circuits designed for the suppression of harmonics.

The output from the speech equipment is first applied to the 50 watt amplifier valve, and the output from this is passed to the two modulators, which are coupled to the two oscillators by the Heising system. On the front of the transmitter panel are



Site of Station 3YA, Christchurch, and the headquarters of the Radio Broadcasting Company of New Zealand, Limited, in the A. R. Harris Company Building. The towers are 154ft. in height, and it is recorded that on one occasion, in the night-time, some daring soul climbed the rear tower and fixed to the top a small flag—a terrible risk for a moment's gratification.

—Photo., Webb.