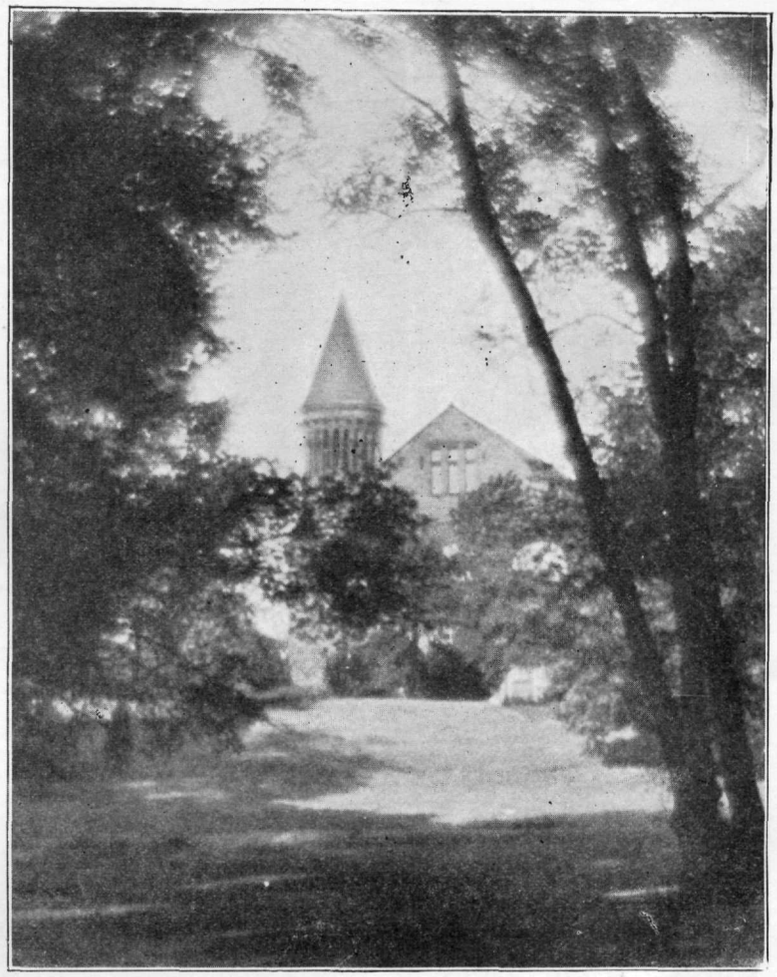
THE ORTON HALL CHIMES

By John K. Griffin, '26



Tradition tells us that one Dick Whittington was so inspired by the ringing of the Westminster chimes that he rose to the position of Lord Mayor of London. The Orton Hall chimes do not seem to have such magical effect upon Ohio State students, but there is no doubt that most of them have been delighted at some time or other by their clear, sweet tones. Of all memories those in school now will have in future years, probably none will be more persistent than the well-known sound of Orton Hall chimes.

HISTORY

The Orton Hall chimes were installed in 1914. Several classes combined to purchase them. Until recently an organization, known as the Chimes Club, played the chimes at regular intervals. One of their rules was that no selection could be repeated within a week. Members took turns and, except on special occasions, all music began at five in the evening. The club appears to have disbanded, and at present Mr. T. E. French and Mr. A. P. McManigal are the operators.

The chimes were cast by the McShane Co. of Baltimore, in 1914, at a cost of $8000.

GENERAL DESCRIPTION

The chimes, with all operating mechanism, are located in the large round tower of Orton Hall. There are three floors in the tower. On the top floor, which is the belfry, are the chimes, on the second floor are the clockworks and timing devices, and on the lower floor are the hand controls.

THE CHIMES

The set is composed of twelve chimes, in the key of five flats, the individual tones being D flat, E flat, F, G flat, A flat, B, B flat, C flat, C, D flat, E flat and F. The smaller bells are in the top of the tower and the large ones almost on the floor. All of them are of the same composition, that is, an alloy of virgin copper with block tin. Their total weight is about twenty-five thousand pounds. The smallest bell, D flat, weighs five hundred and fifty pounds, and the largest, F natural, weighs three thousand five hundred pounds. The latter is the bell on which the number of hours is struck.

THE CLOCK MECHANISM

The clock mechanism is one of standard type for tower use. Motive power is supplied by heavy weights, which move up and down in wood casings the entire height of the tower. When they reach the bottom a switch is automatically closed, starting an electric motor, which winds them back up. When the top of the casings is reached, the motor is shut off in the same way. No attention is necessary. The clock pendulum is a long one, and makes one vibration in four seconds. The hour-striking device is included within the clock mechanism and strikes on the largest chime. An interesting feature is the air resistance governor, which regulates the interval between strokes.

THE QUARTER-STRIKING MECHANISM

Separate from the main clock is a small electrical clock. This has no pendulum, but electrical contacts are so placed that the big pendulum makes and breaks the circuit every vibration, and these impulses control the small clock. In this way the two are perfectly synchronized. This smaller clock has no face and hands, but a small pulley wheel with a wide, flat groove, rotates once in an hour. As it rotates a thin tape passing over it is moved upward. The tape is calibrated in hours, and for each revolution of the pulley, one hour unit of the tape moves up.* By varying combinations of holes punched in the tape, certain sliding contacts are

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closed at the fifteen-minute periods when the chimes strike, thereby putting the striking mechanism in action. The order of striking, that is, the tune the chimes make, is controlled entirely by mechanical means. The electric clock simply determines whether the mechanism shall strike four, eight, twelve or sixteen notes. From ten at night to six in the morning no holes are in the tape, so the chimes do not operate between these hours. The power for this clock is furnished by eight dry cell batteries.

*The motion of the tape does not depend on friction with the pulley, but is made positive by gear teeth engaging holes in the tape.

THE HAND CONTROL

Every bell has its striker connected by iron rods to the operating equipment on the lower floor. Mounted on a wood frame are a number of levers, all on one pivot. To these levers are connected the iron rods from the bells. The ends of the levers extend beyond the frame for a foot and the ends are rounded off to form handles. It requires considerable strength to push a lever down and strike a chime, and when a man plays one selection he is ready for a rest. To avoid confusion, each handle is numbered, and musical notes are changed to their corresponding number. The levers require a downward thrust of two feet, and the operator must bob up and down so far it is impossible to read ordinary music. Mr. French has a note book, in which most of the best-known songs are written in large numbers. This does not show anything about the time of the music, so this must be memorized. Jazz, of course, is not attempted.

No means is provided to vary the length of notes.