

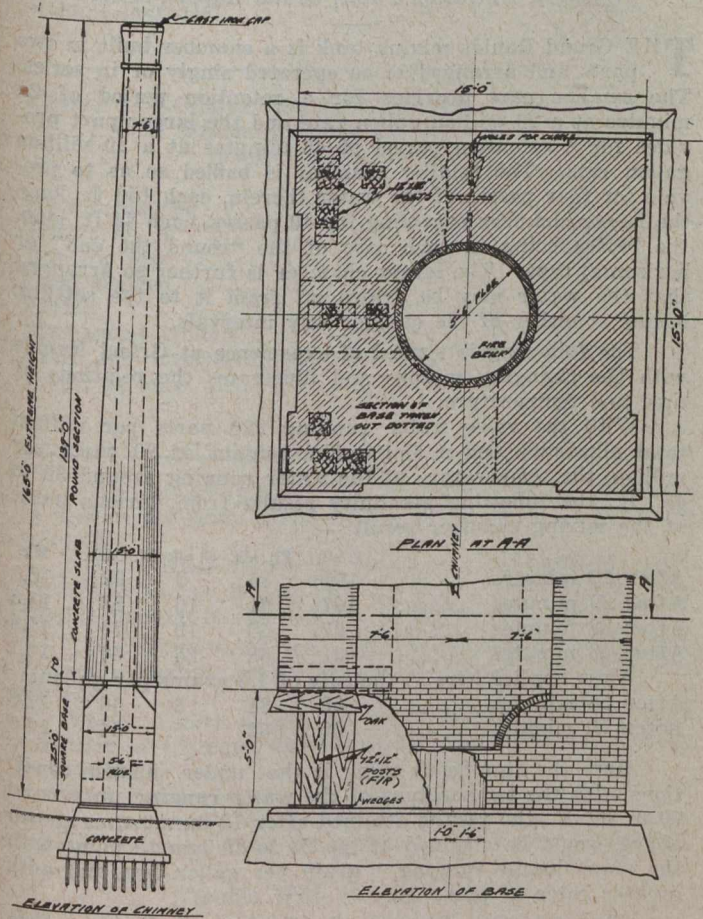
DEMOLISHING TALL BRICK CHIMNEY

BY HON. RALPH B. CHANDLER

C. D. Howe & Co., Consulting Engineers, Port Arthur, Ont.

WHERE the proximity of other structures defines the direction and limits the space into which a tall chimney must fall, there is present the hazard that it may deviate from the required line of fall and clear a path for itself to the ground. Consequently there is always a feeling of relief and satisfaction for those responsible for the work when the once tall and stately land mark is again a rugged pile of bricks, laid out along the ground in the space provided.

The universal practice of toppling chimneys from their bases may seem to the average observer to be merely a spectacular show provided by engineers. Such is not the



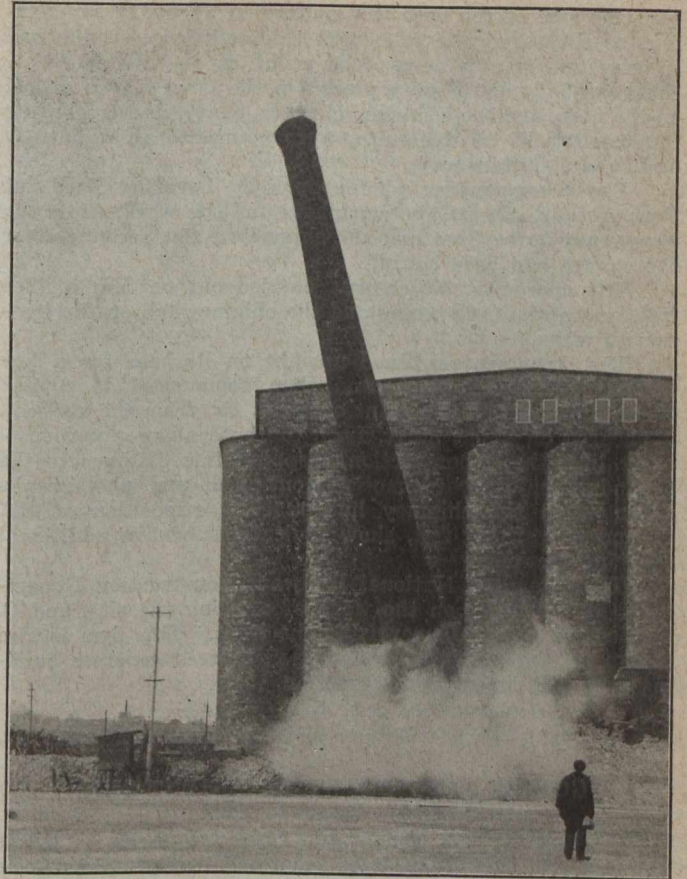
PLAN AND ELEVATIONS OF CHIMNEY, SHOWING PREPARATIONS FOR DEMOLITION

case; the question of cost is always the determining factor as to the method in which work shall be done, and in taking down brick chimneys, the cost of dropping them is a mere fraction of the expense of doing the work in any other way.

The writer recently had occasion to take down a brick chimney, and for the benefit of those of the profession who have not witnessed the feat, a brief explanation of the method employed may be of interest.

The work was in connection with the demolition of the old "B" workhouse of the Canadian National Elevator at Port Arthur, Ont., erected in 1904, and now being torn down to provide a location for the new modern rapid transfer elevator to be erected on the same site.

The old elevator was rope-driven and provided with a steam engine plant of its own. Steam was supplied by a battery of four 200 h.p. externally-fired, horizontal, tubular boilers, and for these the chimney in question did service. Its height was 165 ft. and it reached the level of the cupola roof peak.



CHIMNEY FALLING AND IN POSITION 15° FROM VERTICAL

The accompanying sketch gives the general dimensions of the structure and shows the extent of work done to undermine the base, and also the timbering provided to sustain the superstructure as the brickwork was removed. This work was carried on by drilling and blasting with dynamite. The bricks were laid in cement mortar and their removal with chisels and hammers proved most tedious, so that blasting was resorted to with excellent results. The charge found to give best action was about two sticks of 40% dynamite per hole, shooting three holes in succession on each side of the cleanout door in base of chimney.

The work proceeded to the stage indicated and then the supporting 12-in. x 12-in. timbers, eight in number, were bored about 12 ins. up from the base, and loaded with one stick of explosive for each post.



BASE OF CHIMNEY CUT AWAY—TIMBERS READY FOR DYNAMITE CHARGES