however, some years before this-to be exact, in the year 1906—that our Belgian confreres had evolved a reinforced concrete chimney construction which combined stability, and economy and rapidity of construction with an artistic appearance unequalled by any other design.

In 1914 the first chimney of this type to be erected in Canada was constructed for the National Transcontinental Railway shop plant at Quebec. Of this chimney a more detailed description will follow.

General Construction .- For a general description of the Monnoyer chimney a translation of the information imparted by the Belgian engineers themselves will be given. On general lines it is as follows :--



Fig. 6.—Forms for Foundations.

"The basic principles of the construction is, in the larger aspects, similar to other designs; that is to say that they are composed of a foundation, a base, and a shaft, all of which are of reinforced concrete.

The foundations and footings being constructed at, or in the vicinity of, the ground level, do not present any unusual problem, but it is the shaft itself wherein rests the niceties of construction.

"The shaft is constructed of blocks to ins. in height for the current diameters. These blocks, which vary in number in accordance with the diameter of the chimney, constitution constitute by their assemblage a course which is then to ins. high. Each one of them is formed with a hollow projection or hook at one end (Fig. 1), which is set immediately over the corresponding projection on the block below. These projections constitute also the vertical ribs of the chime chimney, and it is in these ribs that the vertical reinforcing bars bars are placed (Fig. 2). The reinforcing bars are carried up continuously by means of joints the full height of the of the chimney, and are at the same time firmly anchored in the foundations.

"The blocks themselves, which may be constructed in a work-shop or any convenient place, are reinforced with steel wit steel rods to make them capable of enduring the strain of transported to make them capable of enduring the strain of transported to the strain of transported to the strain of strai transportation and placing. Each block has in its upper surface a groove, in which is lodged the horizontal reinforcing rod, forming a bond sunk in the joint.



Fig. 7.—Foundations with Forms Removed.

"The square end of the block is set in the head of the block adjoining; that is to say, the portion which constitutes the rib; and as this method of placing allows of considerable latitude in the setting of the blocks, it permits a variation in the diameter of each course, thus obtaining the conical shape so indispensable to a favorable appearance.

"The operation of erecting is effected very rapidly; masons working in the interior of the chimney, receive their blocks ready to lay, put them in place, mortar the 10 inches in the interior of the rib, prepare the joints for the new blocks, and continue very rapidly to lay them.

"The chimneys are, in general, terminated at their summits by one or two bands of specially constructed blocks, and a cast iron coping.'



Fig. 8.-Backfilling Around Foundations with Hayward Bucket.