

Engineering Department

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MODERN BRIDGES

Bridges of concrete and of steel, two materials which represent great strength and durability, are now commonly employed throughout Ontario in the construction of highway bridges. The use of these materials has grown out of the increasing scarcity and cost of suitable timber, the cheapening and improving of steel and concrete, and the greater strength and durability supplied by the latter materials.

Bridges are subjected to a much greater strain to-day than they were a few years ago, and this feature is likely to become greater rather than less. Traction engines with threshing outfits, weighing six and eight tons, are commonly seen on the highways. That steam road rollers weighing from ten to fifteen tons will be generally used in the course of a few years, is a certainty. Motor wagons and trains are a possibility in connection with farm traffic, such as will be a matter for early consideration. The bridges being built to-day must be strong for present traffic, and future needs cannot be overlooked, except as a very short-sighted policy.

A very slightly increased expenditure will supply much greater durability than is ordinarily sought. We of to-day owe much to our forefathers who opened the early roads, cleared the farms, and rendered possible the advanced Ontario as we find it. It is for us to build for the future, and in bridge building there is possibly much that is creditable—much that may be discreditable. Let us not hand on to posterity rattletraps—that may become death-traps—in the form of bridges.

In many municipalities practically all small waterways are made with concrete tile. As greater capacity is

required, concrete arches, or culverts with concrete walls and flat concrete covers are used. Arches prevail for the smaller types of bridges, offering strength and better appearance. As greater space is required concrete abutments and piers, with steel superstructure, is employed.

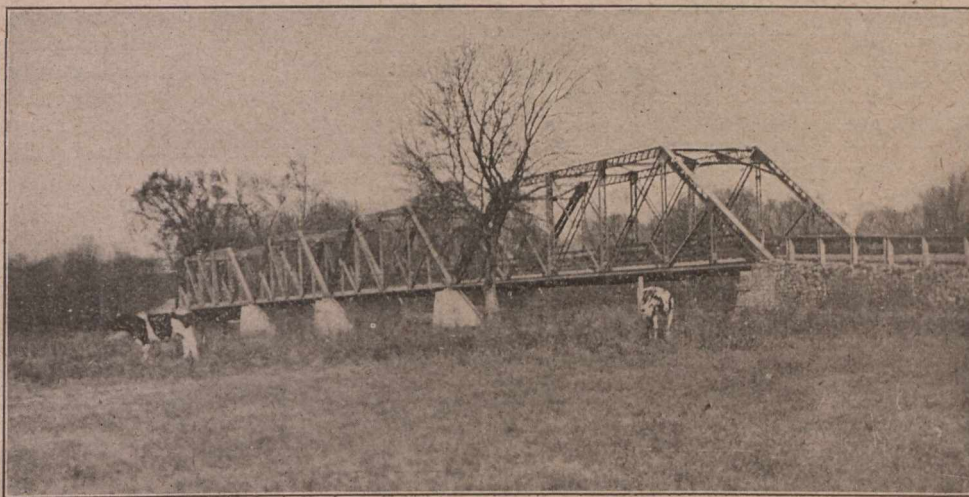
In durable and well-built bridges is an opportunity for work of a monumental nature that should not be lost. Permanent bridges now being built may be made enduring structures far more desirable and useful than a slab or a mausoleum in the cemetery. Concrete has endured the ages and no better was ever put together than that which is

now being made. Is it not for councils to see that plan and workmanship are as reliable as the materials they are using?

Materials of a temporary nature may be made to answer temporary needs, but the trend of public opinion is growing more and more in favor of all improvements, of whatever nature, being of a permanent character. Therefore materials of a durable and permanent character should be such that posterity will be proud of them.

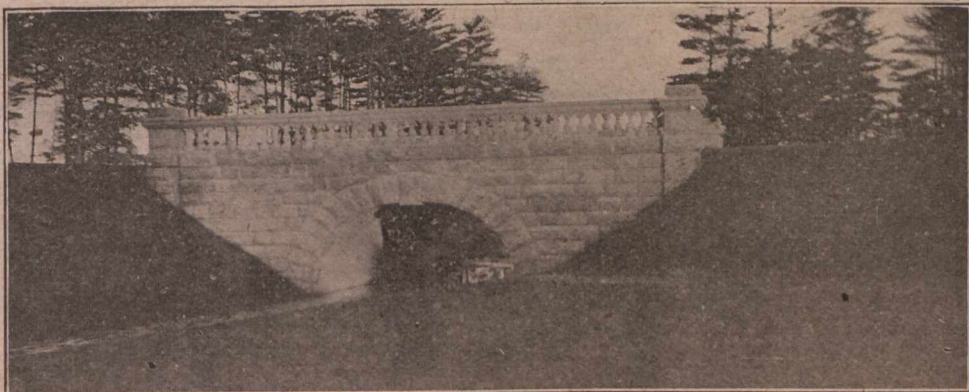
The County of Grey House of Refuge management has recently been the subject of some comment arising from the keeper's action in confining an inmate for three days in a dark room. This may have been in ac-

cordance with local regulations, that will, unless changed, be the cause of frequent complaints. House of Industry by-laws should limit the time during which an inmate may be restrained at the institution without the approval of the county inspector or other supervising authority. The more serious offences should be made the subject of an information and magisterial adjudication.



O'BRIEN'S BRIDGE, HASTINGS COUNTY

Concrete Abutments, Steel Superstructure and Concrete Floor, Four Spans, Sixteen Feet Clear Roadway



CONCRETE ARCH FACED WITH NATURAL STONE, AT MIMICO