as cheap, as wood. Further, it is only a question of time when similar conditions will obtain in Alberta and the West generally.

While we must acknowledge that wood as a building material cannot be replaced in every part of Canada, yet measures can be taken to render wooden houses comparatively unburnable. Asbestos sheathing affords probably the best protection. Asbestos shingles, tiles, boards, in all manner of shapes are being put on the market. Metallic sheathing is also a useful, though not ornamental, means of protection. It is worthy of mention that for years the fire laws of Dawson City, Yukon Territory, have made obligatory the sheathing of buildings with uninflammable substances.

But it is in our larger centres of population that a change is most needed. Wooden floors, partitions, staircases, should long ago have disappeared from our public buildings. The use of reinforced concrete, or of some equivalent, should be enforced by law in all cities. In suburban and country communities, measures only less stringent should be put into effect.

All this, naturally, cannot be done at once. It will take years to form public sentiment. But we are convinced that this is a subject that should be discussed by our legislatures and, in fact, by all our city, town, and county councils. The loss that Canada suffers annually through fire, is enormous enough; but another and a heavier toll is paid. Dozens, perhaps hundreds, of human lives are sacrificed because as a people we are ignorant and indifferent.

In developing our theme we fear that we have overlooked our original text. What we started out to say was that before the captains of our asbestos, cement, clay, mica, and iron industries lies the opportunity of educating the people up to the use of safe materials of construction. Sooner of later this must come. Canada should not be the last of civilized countries to remove the scales from her eyes.

PRODUCER-GAS POWER PLANTS.

Despite many failures, failures due both to inefficiency on the part of operators and to inherent defects in the plant itself, the gas-producer as a source of power is more than holding its own. Trouble has arisen in not a few Canadian installations. In several instances that have come to our notice the manufacturers have been to blame. In other instances the ignorance of the operator has brought disaster. But, on the whole, the gas-producer has established itself as one of the few economical sources of power.

Such is the present demand for producers and gas-engines that one new Canadian manufacturing concern, organized but a few months ago, has orders on hand that will tax its capacity for two years to come. Both British and United States manufacturers report excellent business.

But while no one can dispute the fact that the producer and gas-engine are to play a large part in our industrial growth, it may not be amiss to allude here to the tendency towards disregarding local conditions in considering the selection of a power plant. Our remarks apply, of course, only to the equipment of mines.

The belief that the gas power plant is bound to replace all steam installations is not warranted. Initial cost of plant, transportation charges, the probable life of the mine, and the probable net earnings throughout its lifetime, must all be weighed carefully. Due consideration of these factors will frequently lead the engineer to conclude that he must sacrifice actual mechanical efficiency and must be influenced mostly by the immediate requirements of his mine. In other words, a cheap steam plant, representing only a small outlay, often serves the purpose with more ultimate economy than would a more elaborate and costly outfit. It may be bad engineering to install a producer-gas power plant if a non-condensing Corliss engine will fill the bill.

That our meaning may be clearer we may add that we have no shadow of doubt as to the assured future of the producer-gas plant. It has come to stay. Its use will extend. But, for the present at least, there are limits set. These limits must be recognized. The engineer must not allow himself to be carried away by the mechanical beauty of a device that is sometimes unsuited to meet the requirements of mines situated far from transportation; or that, in point of cost, throws out of balance the mining business that he is conducting.

As our transportation lines improve and increase, and as suitable fuel becomes cheaper, the steam plant will gradually be replaced. But its days are not yet numbered.

TWO RECENT CANADIAN INVENTIONS.

Two Canadians have recently entered into the field of invention in mining machinery. Mr. John Redington, mine manager of the Coniagas Mine, Cobalt, Ont., has introduced several modifications in the standard design of rock-drill valve and piston. Ten of his drills are in use at the Coniagas mine. The parts are machined and assembled at the mine. The drill is reported to be giving every satisfaction.

Another invention, a rock-drill chuck, patented by Mr. H. W. Schorlemmer, Rossland, B.C., has been given full trial at the mines of the Consolidated Mining & Smelting Company. In the new chuck there are no bolts and nuts to tighten; the operator merely slips in his drill and turns on the air. The drill tightens automatically, and does not work loose. To release the drill it is only necessary to tap a wedge which is part of the chuck.