

cue and restoration. There are several kinds of electrical lamps. One of these is of recent discovery; it is effective and very light. It comes from the U. S. The lamp is shaped like a small handless cup, which is attached to the hip. The lamp can be hooked to a man's cap, leaving his two hands wholly free for action. Mr. Brown asked why these lamps were not more generally in use, replied that people were waiting to see if further improvement might not come soon. Improvements were being effected every month and it was best to 'hide a wee.' The car, as part of its contents, has hose and reel, buckets, axes, and all the accoutrements of a first class fire brigade, stretchers, first aid cabinets, telephones, and, as the auctioneers say other things too numerous to mention.

Sydney No. 1, the oldest of 'Scotia's' collieries is livelier than ever. There is not a vestige of decay, and that there are high hopes of prolonged life is evidenced by the many improvements being made. J. W. Johnstone, formerly of Westville and Mabou, is Manager here. Among the many improvements and additions, one that took the writers' fancy was the Bennis Patent Fire Grate. Slack coal, and material that is not wholly coal, is fed from a hopper on to the front part of the grate. The grate is say ten feet long, and moves at the rate of a foot in nine minutes conveying the coal to the front of the fire. First there is the ordinary fire, then a brighter one, and last the gases emit a bright white flame. Any noxious or inflammable gas is carried off by induced draft. The smoke from this fire is a negligible quantity. The boiler to which the grate is attached is an ordinary Babcock and Wilcox. The ashes from the grate are automatically conveyed to a pit where they are crushed and carried to sea by the exhaust water from the condenser, which also conveys seaward the waste from the washing plant. It is intended to fit all the boilers with these grates. Their installation means much saving of labor.

Sydney No. 5, though possibly it has seen its best days, is still good for a six to seven hundred ton output. Sydney No. 3 can give an output once more of a thousand tons when so minded, and Sydney No. 2 can do six or seven hundred or more.

Sydney No. 4 was visited. If it is true that the most troublesome child is most thought of by its mother, then Sydney No. 4 should be the best beloved of Scotia's collieries. For a while it was nigh a heart-break to the officials of the company. After starting the coal got thin and thinner till it disappeared. But patience and perseverance had its reward. Had the officials only known. They ran into a fault and long kept running with it. It took long to discover that they were parallel with the fault instead of at right angles. However, all well that ends well, and now the 'trouble', and other incidental troubles, are all past. It is claimed by the Superintendent that the whole equipment overground, engines, boilers, compressors, electric plant, etc., did not cost more than sixty to seventy thousand dollars. This small outlay for a colliery producing 700 tons a day is something to marvel at. Mr. Arch. Ferguson, formerly of New Campbellton, is manager.

The new plant for compressing the molten metal that is formed into ingots, like many good things is simple rather than intricate. The metal from the ladle flows into specially strengthened moulds in the

ordinary fashion. These moulds are on trucks. When filled with the metal they are run under the compressor. Here the metal is subjected to downward as well as upward hydraulic pressure. Gauges enable the operator to regulate the pressure, so that it may not be too heavy. In such an event the liquid metal would ooze out of the top of the mould. Ingots of five, ten, and twenty-five tons are cast. Compression means better steel and great saving of what, under the old system, was waste. Ingots ranging from a foot to two or three feet down in the middle of the ingot. Defective ingots mean much recasting. Under the new system an inch or two only on top of the ingot has to be set aside. Mr. Graham Fraser expressed to the writer his opinion that this part of the plant should prove highly economical to the company.

After lunch, a delightful 'function', held in the basement of the company's general office, where there is a restaurant with a male cook, and where the officials of the company may dine, if so minded, the party—only four including chauffeur—Mr. Gray being forced to leave in order to connect with Mira, where he and his family are summering—had a long spin, away to the head of the Little Bras D'Or in Mr. Browns new auto. The drive was delightful, the day fine, and the scenery enchanting. The Colonial mine was passed on the way back to North Sydney. This mine has been idle for about a year, though the pumps have been kept going.

It is said that order is heavens first law. If that be so then the law is having large fulfillment at the plants of the Nova Scotia Steel & Coal Co. at Sydney Mines, especially at the steel plant where everything fits in finely, and where tidiness is mistress.

By the way this hasty sketch would be incomplete if mention were omitted of the war-like preparations made by Tom Brown for the rout of invaders. He is a perfect athletian in the desire for something new. He has had planted on the high eminence on which his house stands an imposing, almost awe inspiring, piece of artillery. The cannon which is neither a howitzer, mortar, or gattling is mounted on a serviceable carriage. It wrought havoc among the enemies of Queen Anne, and is still capable of throwing deadly missiles. It commands the approach from the mines; is solely for defensive purposes, and is a solemn warning to the silly socialists and meddling politicians of Sydney Mines that if they kick up capers they will speedily be turned into croppers.

#### BIRCH GROVE COLLIERIES.

The road from Glace Bay to Birch Grove is a rocky way. It may not be 'half bad' when covered by horse and riding wagon, but by auto, it is certainly trying to ones interior mechanism. There may be, there must be, some to whom violent jolting is a pleasing and novel pastime, but not to all. By the time the Marconi Towers had been passed the conclusion was arrived at that even auto, ridings had its drawbacks. There are those who say that jolting is good for the liver; possibly, for some livers with excess of bile, but not for those in normal condition. By the way, speaking of the Towers it is now said that they are not necessary for wireless transmission, that they are now more ornamental than useful, another illustration of the onward rapid march of science. Birch Grove, where collier-