The wells belong to the Ontario Natural Gas Company. It is said this company has an output of 50,000 feet of gas a day at present, and can easily supply Detroit without assistance from the Ohio fields. An 8-inch pipe is to be laid under the river at an estimated cost of $50,000.

"A steel cable one and a half inch in diameter, travelling at the rate of 12 miles per hour, can transmit nearly 2,000-horse power," says the *Electrical Age*. "But by taking a copper wire one square inch in section and applying to it a potential equal to that which is in use to-day in at least one place in this country, viz, 10,000 volts at 1,000 amperes per square inch, we find we are transmitting in an invisible form over that wire more than 13,000 horse power, which is enough to rupture instantly six such cables as are ordinarily used in operating a cable railway."

An American journal describes a shot-firing appliance, which can be attached to any form of safety lamp, and is known as the "Roberts Shot-firing Lamp." The following are the essential features of this apparatus:—A brass tube 5-16in. in diameter is inserted through the oil cistern and its top is terminated in a brass box covered with gauze. A hole is made in the tube opposite the flame, and is normally closed by a "sleeve" pushed up by a spring. The lower end of the tube is also closed by a plate pushed over it by a spring A blow-pipe also passes through the oil cistern, and is closed like the lower end of the tube. To fire the fuse it is pushed through the tube, and the sleeve being drawn down, the flame directed on to the end by the blow-pipe. When it is certain that sparks will not be thrown from the end of the fuse it may be withdrawn from the tube.

A new kind of elevator for use in mines is mentioned by the English mining journals. It is constructed so that one side exactly balances the other. On one side is a large cage on which a loaded car is run, to be hoisted to the top of the mill, and on the other is a huge iron tank capable of holding sufficient water to raise the car, load and carman to the top. The carman, from his station at the bottom, pulls a rope which opens a stop cock and fills the tank with water, at which the tank descends, and the cage, containing car, carman and all, rises to the top of the bin, when the car is dumped. The carman then pulls another rope, which opens a valve at the bottom of the tank and lets the water out; thus the cage and car, now being the heaviest, descends, its movement, of course, being always under the control of the operator or carman. The cage is provided with strong brakes, capable of holding it and the contents stationery at any point, either in going up or coming down, and the whole is hung on an 8-foot wheel by a 1½-inch wire rope of great holding capacity.

Not long since at Springbank colliery, Airdrie, Scotland, a trial took place of a Rigg and Meiklejohn coal cutting machine. The machine was one of the usual size, 7¾-inch diameter cylinders, and was worked by compressed air at a pressure of 40 pounds per square inch. It was worked by 4 men, 1 to attend to the machine, 2 laying rails and setting props, and another followed the machine clearing out the cut to let the coal drop. The cut was 3 feet under in a seam of coal 2 feet 8 inches thick, and the wall to be cut was 70 yards long. This whole length was cut in 1 hour and 30 minutes, which at this rate would mean a cut of considerably over 300 yards per shift of 8 hours. The whole was done in a very satisfactory manner. Mr. William Cassels, the manager, says: "We can cut easily 300 yards per shift. The machine is 7 feet 10 inches long over all, 2 feet 10 inches wide, exclusive of cutter, and 1 foot 10 inches high on the rails, and the air pressure at the machine is 35 to 40 pounds, and this is quite enough. The grip cut by this machine is only 2¾ inches to 3 inches deep, and this results in a large saving of hand coal as against hand labor."

As we go to press we are advised that in the suit against the Dominion Coal Co., referred to elsewhere in this issue, the Supreme Court of Nova Scotia, on the 24th inst., reversed the decision of Judge Townshend and ordered a new trial.

Is there anything new under the sun? asks the *Railway Review*, and here adds: Soloman was right. The more the past is explored the more evident this becomes. A pre-historic blast furnace is the latest discovery. Professor E. Petrie, in 1890, convinced himself that in a remarkable mound called Tel-el-Hesy, in South Palestine, would be found the remains of what was one of the strongest places in the country down to the invasions of Sennacherib and Nebuchadnezzar. The explorations, said Mr. Bliss at the recent Palestine exploration fund meeting, have fully verified this forecast. Amid all the evidence discovered by Mr. Bliss of the civilization of that remote age—wine presses, treacle presses, alkali burnings and innumerable others—by far the most curious is the disclosure of an iron blast furnace, arranged to give strong evidence of being intended to heat, in its descent, a blast of outside air forced through passages before entering the chamber at the level where tuyeres are usually found. "If this theory be correct," says Mr. Bliss, "we find 1,400 years before Christ, the use of the hot air blast instead of cold air, which is called a modern improvement in iron manufacture due to Neilson, and patented in 1828."

A small light "pocket" blasting battery has been brought out by the Nassau Electrical Company, of New York. The battery is made up of chloride of silver cells, each being securely and hermetically sealed; these cells have an E. M. F. of 1.10 volts, with a maximum current of 2.00 amperes, weigh less than 1 oz., are less than 2¾ in. long, and under ¾ in. in diameter.

At the last meeting of the North Staffordshire Institute of Mining Engineers, Mr. J. J. Priest contributed a paper on "Colliery Cost Sheets," which he illustrated by drawings. He observed that there were greater difficulties in carrying out an elaborate system of cost keeping in North Staffordshire than in almost any other district, owing to some extent, to the mode of working, and partly owing to the fact that in many instances ironstone and coal were drawn not only from the same shaft but from the same seam. It would generally be admitted that some system of ascertaining in detail the cost of labor per ton of minerals produced or paid for was of the first importance to a manager, and unless these accounts were carefully and minutely kept, the management of any mining enterprise was not likely to be economical or successful, as would otherwise be the case. Labor costs were very generally based on the tons produced or paid for at the pit, and were therefore only useful as a means of comparison with the labor cost of previous pays. It was a common custom in some districts a few years ago for the subordinate heads of departments to make out their own wages and cost sheets. This system had the advantage of impressing on the memory of those officials the cost per ton of each class of labor working under their immediate authority, but that system in late years had become more or less obsolete. The services of such persons were generally thought to be better utilized in the active superintendence of their particular departments, while the work of making out the wage sheets and cost sheets was now generally performed by clerks. The cost sheet would in all probability be made out on the "tons accounted for," otherwise "disposed of," and these would in nearly all cases show a greater or less—generally less—quantity than the tons paid for at the pit, the discrepancy arising from refuse and dirt picked out of coal, allowance to customers, variation in the tare weight of trucks, &c., all adding to the probability that less tons would be "accounted for" than the colliers were paid for "getting." In some instances the cost was worked out on the production—that was the coal paid for at the pit—but he maintained that the most accurate plan was to work out the statement entirely on