ELECTRO MAGNETISM, AS A MOTIVE POWER.

Professor Page, in the lectures which he is now delivering before the Smithsonian Institute, states that there is no longer any doubt of the application of this power as a substitute for steam. He exhibited the most imposing experiments ever witnessed in this branch of science. An immense bar of iron, weighing 160 pounds, was made to spring up by magnetic action, and move rapidly up and down, dancing like a feather in the air, without any visible support. The force operating upon this bar, he stated to average 300 pounds through ten inches of its motion. He said he could raise this bar 100 feet as readily as through ten inches, and he expected no difficulty in doing the same with a bar weighing one ton, or a hundred tons. He could make a pile driver, or a forge hammer, with great simplicity, and could make an engine with a stroke of six, twelve, twenty, or any number of feet.

The most beautiful experiment we ever witnessed, was the loud sound and brilliant flash from the galvanic spark, when produced in a certain point in his great magnet. Each snap was as loud as a pistol, and when he produced the same spark at a little distance from this point, it made no noise at all. This recent discovery he stated to have a practical bearing upon the construction of an electro-magnetic engine. Truly, a great power is here; and where is the limit to it?

He then exhibited his engine, of between four and five horse power, operated by a battery, contained within a space of three cubic feet. It looked very unlike a magnetic machine. It was a reciprocating engine of two feet stroke, and the whole engine and battery weighed about one ton. When the power was thrown on by the motion of a lever, the engine started off magnificently, making 114 strokes per minute; though, when it drove a circular saw ten inches in diameter, sawing up boards an inch and a quarter thick, into laths, the engine made but about eighty strokes per minute. There was a great anxiety on the part of the spectators to obtain specimens of these laths, to preserve as trophies of this great mechanical triumph.

The force operating upon the magnetic cylinder throughout the whole motion of two feet, was stated to be 600 pounds, when the engine was moving very slowly, but Professor P. had not been able to ascertain what the force was when the engine was running at a working speed though it was considerably less. The most important and interesting point, however, is the expense of the power.

Professor Page stated that he had reduced the cost so far, that it was less than steam under many and most conditions, though not so low as the cheapest steam engines. With all the imperfections of the engine, the consumption of three pounds of zink per day, would produce one horse power. The larger the engine, (contrary to what has been known before,) the greater the economy. He was himself surprised at the result. There were yet practical difficulties to be overcome; the battery had yet to be improved; and it remained yet to try the experiment on a grander scale, to make a power of 100 horses or more.

Truly, the age is fraught with wonders, and we can only now look forward with certainty to the time when coal will be put to better uses than to burn, scald and destroy.—*National Intelligencer.*

IMPORTANT DISCOVERY—LARD RENDERED FLUID BY MIXING WITH ROSIN.

Professor Olmstead of New Haven has lately made the important discovery, that, by adding one pound of powdered rosin to three pounds of Lard, well stirred together the mass becomes semi-fluid at 72° F., and on being melted, which it does at 90° notwithstanding if melted alone the rosin requires 300° and the lard 97° of heat, the compound will remain transparent and limpid at that temperature. As it cools, a pellicle begins to form on the surface at 87°; and at 76°, it remains a dense semi-fluid.

The discovery of the above named fact will be of great importance to those who use lard lamps, as the lard is rendered more fluid by the rosin, and the power of illumination increased two fifths; yet, after two hours' burning, it looses its brilliancy on account of the wick becoming clogged. This will not be an important objection in families, while in point of economy the gain will be considerable; for lard is worth three or four times as much as rosin.

To machinists, this discovery is very important, as it enables them to make use of lard, instead of oil, which is not only a saving in cost, but what is of far more importance, the addition of the rosin completely neutralises the quality of acidity in the lard, which corrodes metals, particularly brass and copper, to such a degree that it is unfit to apply to anything not in constant use. Professor Olmsted says, a thin coating of the compound laid upon a grate or sheet-iron stove with a brush, as thin as possible, will keep it free from rust all summer, although stored in a damp place.

To soap makers, the discovery is also important. If one pound of the compound is added to two pounds of common Windsor soap, the quality is greatly improved, and the tendency that soap has to grow rancid, when in use or kept moist, is thus entirely prevented. A shaving cream of an excellent quality, may be made by taking a cake of good shaving soap and steaming it soft in a close cup, and mixing half its weight with the compound, and working it well together; adding a little oil of almonds or any other agreeable flavor.

The same compound applied to boots and shoes renders them nearly impervious to water, and if applied to the soles, will not soil the floor. The uppers will be soft and pliable, and not prevented from receiving a blacking polish.

For oiling carriages, the mixture of lard and