Mr. Edison on Patent Protection.

The unthinking and unintelligent members of the body politic who are clamoring for the overthrow of our patent law, under the wholly mistaken impression that the consummation of their design would, in some unexplained way, aid in the suppression of their pet bugaboo, "monopoly," have received a notable recruit to their ranks in the person of one of the principal beneficiaries of the system which it is proposed to destroy. Ordinarily, the right of a private person to the unmolested enjoyment of his own opinions in respect to this or any other subject is not to be questioned; but when an inventor occupying so prominent a position before the public as Mr. Edison appears on record as an exponent of the opinions attributed to him in the published interview which we reprint, his action ought not to pass without comment. Mr. Edison is reported as saying:

"The present law is a constant temptation to rascals, and virtually offers a premium upon rascality. Under it the infringer of a patent is not interfered with until the real owner can show that he has the monopoly of the device in question. This process may take years, during which the infringer who has money and audacity enough to seize another man's invention can go on and perhaps wear the rightful owner's life out by litigation and annoyance. I have had so much of this sort of thing within the last five years that I have almost made up my mind never to take out another patent until the law is changed. The burden of proof is now put entirely upon the man who holds the patent, instead of upon the man who wishes to infringe it, whereas it ought to be all the other way."

An old proverb bids one to speak well of the bridge that has carried him safely across the stream. It is not many years since Mr. Edison was earning, by diligence and industry, a modest stipend of three dollars per diem as a telegraph operator, and it is but just to say that he was accounted a very skillful one, and well worth the money. To-day he occupies the finest estate in the vicinity of the metropolis, and if he is not twice a millionaire, it can be for no other reason than that, like too many of the rest of us, he has found it less easy to keep money than it is to get it. We venture to assert that had it not been for the patent law which he now decries, Mr. Edison would, in all human probability, have been "pounding brass," as the phrase is, at this moment, although it is doubtful if, in the absence of the inventions which the patent law has fostered, anybody could afford to pay him more than $1.25 per day. Who would have given him a dollar in exchange for his quadruplex and automatic telegraphs, and his electric light inventions, had it not been for the patent law? Would he not have been obliged to content himself with the modest wage earned by daily industry? He adds, mysteriously:

"I have already found one chemical device which promises to pay me handsomely, and the Patent Office will never hear anything about it. To apply for a patent would simply invite a lot of rogues to share with me, or, what is more likely, to take all the profits."

Every right-minded person will be gratified to learn that the prospects of polyform, if indeed it be that excellent remedy which is referred to, are so flattering. But to return to the patent law. Mr. Edison complains:

"There is scarcely an invention of importance made within the last generation which has not been disputed upon frivolous grounds, and the inventor put to all sorts of annoyance. In my own case, I am sure that, no matter what I may patent, some one will come up as soon as the patent is seen to have any value, and show by dozens of witnesses, if necessary, that he is the rightful owner of the invention. If I patent to-morrow a process for making good flour at a cost of two cents a barrel, the publication of my patent would bring out about ten men who could prove that they did that sort of thing years ago, and that I had no right to a patent."

This is not simply an indictment of the patent law, but of all law whatsoever, and the real root of the trouble obviously lies, not in the statutes, but in that inborn proclivity of the unregenerate human animal which prompts him to appropriate his neighbor's property, and which it is one of the principal functions of the common law to prevent and punish. The patent law merely serves to protect the inventor by declaring that an invention is property, and that it may, therefore, be the subject of larceny.

The federal courts have never, to our knowledge, pronounced any patent whatever invalid because of prior knowledge or prior use by another, except the anticipating invention had been actually embodied in a concrete and operative machine or method, and that fact had been proved beyond a reasonable doubt. That the law is designed to protect, and that it does in fact protect, the real originator is abundantly shown in the cases of such inventors as Goodyear, Howe, Morse, Bell, Edison, Westinghouse and many others, whose achievements have served to render the annals of American industry illustrious.

The fact is, and it is well to bear it in mind, that the pre-eminence of the United States, as distinctively a nation of inventors of improved machinery and processes, dates back no further than the patent law of 1836, which is substantially the one now in force, and it is to the fostering care of this wise statute, more than of any other which has ever been enacted by Congress, that this country owes its present prosperity and greatness.

Do not lay rash hands on the patent law. Let the American inventor be protected. *In hoc signo vinces.*—*Electrical Engineer.*

THE BIRTHPLACE OF JAMES WATT.

The inventor of the condensing low-pressure steam engine was certainly one of the greatest benefactors of mankind. James Watt was born at Greenock, on the Clyde, in 1736. The house in which he was born, No. 13 Dalrymple Street, in that town, has lately been pulled down by the Greenock Improvement Commissioners. We have to thank Mr. Cathcart W. Methven, engineer to the Greenock Harbor Trust, for a sketch of the street, showing the position of the house. It will be marked by a memorial tablet on the new building to be erected on this site. James Watt, in his youth, was apprenticed to a maker of mathematical instruments. He began, at the age of twenty, to make experiments with steam as a motive power. In 1770 he commenced practice as an engineer, and in 1774 entered into partnership with Mr. Matthew Boulton, of the Soho works at Birmingham, where his grand inventions were applied with speedy success and results of

THE BIRTHPLACE OF JAMES WATT.

amazing magnitude. James Watt retired from business in 1800, and died in 1819. He was the inventor also of the copying press, of improvements in the process of bleaching, and of many useful appliances in the manufacturing arts.—*Illustrated London News.*

Mechanical Progress.

The lecture which commemorates the birth of James Watt, in Greenock, on Jan. 19, 1736, was this year delivered in the Watt Institute, Greenock, by Mr. John Scott, C.B. In the course of it the lecturer said he proposed to direct attention to some of the records bearing on mechanical subjects which have come down to us in the cut stone work of the temples and the mural tablets in the tombs which still exist in Egypt, and supply the earliest definite records of the civilization and advancement of the wonderful people who inhabited that country more than 2,000 years before the Christian era. Much controversy has been raised among Egyptologists as to how the stone cutting of the temples, with the gigantic monolithic statues and incised hieroglyphic ensamples, had been performed.

We know the difficulty experienced by our most experienced granite cutters in getting tools of the best steel to stand, and as nothing in the shape of tools has been discovered, except in bronze, the solution of the problem must still remain an open one. It may be possible that they possessed some now unknown method of tempering the tool bronze. But this seems unlikely, as the analysis of most of the tools which have been tested shows that the alloy contained 88 per cent copper, 12 of tin, and some impurities not of any practical consequence. This is the exact alloy, if a small quantity of zinc were added, which is now used as the regulation mixture for all gun metal or bronze castings used by the Admiralty for Her Majesty's service.

Among the implements in use by the Egyptians, and frequently shown on the mural drawings, is the beam and scale with equal ended levers. The Italian or Roman balance is not found. The siphon was used by them for purifying muddy water, which was allowed to settle in one vessel placed at a higher level; and after the mud had subsided the water was drawn off from the top by putting one end of the siphon quietly into the vessel, whence it then flowed into another placed below it, in a pure state. The use of iron and steel does not appear to have been known in Egypt until after the exodus of the Israelites, but in the tomb of Rameses III., better known to us as Sesostris, 1235 B. C., iron forming a butcher's knife was discovered. So few traces of iron mines have been discovered in Egypt, it is difficult to believe that iron could have been a native product. It was probably introduced from India, where iron from native ores has been produced from very ancient times, and is still produced in small quantities. It is known as worked iron, and is the material used in the manufacture of Damascus blades and Indian cimeters.

Among the Greeks and Romans, in the periods which are covered by extant writings of authors of these nations, a vast advance in mechanical knowledge has to be signalized. Practical mechanics in those days had but two leading objects: warlike implements of offense and defense, both for sea and land, and machines for aiding in the construction of temples and public edifices and for temple worship. That such warlike instruments were then produced there is undoubted evidence, and that many of them held their own until within the last three hundred years is undoubted. But little evidence exists as to how their manufacture was carried out, except such as can be gleaned from the writers of a much later period. That the material used was principally timber, and that metals were but sparingly introduced, seems certain.

A Horse that Draws the Water He Drinks.

The sagacity exhibited by some of the horses employed by the fire department in this city is very remarkable, and their exploits have been frequently described in our daily newspapers. But for the first time we read in one of our evening contemporaries of a horse in the service of our ambulance corps, which is not far behind any fire engine horse we have read of in point of intelligence. The horse pulls the ambulance in search of patients for the New York Hospital, and during the whole period of his philanthropic career as an ambulance horse, he has never once been given a drink by any of the stable hands. He believes in the maxim that God helps those who help themselves, and helps himself accordingly.

A *Telegram* reporter went down to see how he quenched his thirst, and was edified by the intellectual behavior of the animal, which he describes as follows:

There is an ordinary faucet with a pail under it in the stable, and to this faucet the horse made a bee line.

First he dipped his nose in the pail to see if there was any water there, but finding there was none, he proceeded to open the valve by turning the handle with his nose. He did not turn it on quite enough at the first attempt, so he gave it another nudge, and held his nose under the spigot while the water poured over it to his apparent immense satisfaction. "But what a lot of water will be wasted when he leaves it running the moment he has had enough!" ejaculated the reporter.

"Wait and see," answered the driver.

And there was no water wasted, for the moment the horse had concluded his drink, he went at the faucet again with his nose and shut off the flow completely.

"Does he always do that?" again queried the newspaper man.

"Certainly," answered the driver, as he patted his four-footed friend on the shoulder. "As long as I've known him, that horse has never had a drink that he did not draw from the tap for himself just as you have seen him do this time."

Packing for Ice.

Sawdust to pack ice in is believed to be the best material, but this is very difficult to obtain in some parts of the country where there are no sawmills. A correspondent of the *Country Gentleman* comes to the rescue in such cases, and recommends, next to sawdust, oat straw cut short, if the oats have been thickly sown so as to make the straw small and soft, capable of packing well, without air crevices. If uncut, or cut rather long, it is liable to contain small crevices through which air may find its way, but if cut only a fourth of an inch in length, it may be placed nearly as compact as sawdust. Next to oat straw is fine soft hay. Wheat straw is too stiff, and will not pack solid, although by very short cutting it will answer if a greater amount is used. Good fine sawdust, well packed, need never be more than a foot in thickness, chopped oat straw will answer, well packed fifteen inches, but chopped rye or wheat straw should be twenty inches or two feet. Unchopped fine hay or oats will be quite as good as chopped wheat straw. Much will depend, however, on the care and skill with which the packing is applied, so as effectually to prevent the entrance of air through small crevices.