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STUDY TO HAVE IDEAS.

A suggestive story is told of the late Joseph Harrison, of Philadelphia, inventor of the sectional boiler for which the Academy of Arts and Sciences awarded him the Rumford medal, and widely known as the partner of Winans in Russian railway contracts. He was climbing the Gemmi, in Switzerland, accompanied by a young man, and the conversation fell on the younger's chances of rising in the world should he embrace the profession of mechanical engineer. Mr. Harrison favored the idea, saying that this was the age of invention and improvement, that machinery was constantly being applied to new uses, and that he who would make it a study and master it in all its forms would never lack for remunerative employment. "But I have no skill in drawing," objected the young man. "Neither have I," said Mr. Harrison, "I never had time to learn. But I have always found that if I had an idea I could express it on a shingle with a piece of chalk, and let a draughtsman work it out handsomely and according to rule. And I've generally had ideas enough to keep three or four draughtsmen busy. You can always hire draughtsmen, but you can't hire ideas. Study to have ideas, my boy." It may be added that Mr. Harrison's success was due not to scholastic advantages, but to native capacity and personal effort.

It is a significant circumstance, and one that furnishes the basis for the severest criticism of the current methods of academic instruction, that men who, like Mr. Harrison, have attained signal eminence for originality of thought have rarely been men of much schooling.

The grand aim of the schools is to furnish the student with knowledge, a great deal of knowledge in a little time. To do this the method of cram, not that of original research and critical investigation, has to be adopted. The student's mental habit becomes that of a receiver, not that of a discoverer. He is loaded with knowledge, but in taking on the load he loses, through lack of use, if not through stern repression, the capacity to think or act except along the lines of conventionality and habit. The scholastic bias becomes stronger than the original bent, and the man loses in productive power in proportion as he gains in learning.

The fault does not lie wholly in the schools. The people demand for their children a teaching that can be measured quarterly—measured by quantity, not by quality; and on this score the child who takes most kindly to second-hand ideas is sure to win. Capacity for original ideas, for original and personal independent work, is at a discount. In other words, what the man most needs to have, the child or youth is least encouraged in cultivating.

While knowledge and skill are both highly desirable, they are still of second rank, and it is possible to acquire them at too great a cost. If a man has ideas—original, individual, creative ideas—he can usually hire skill and buy knowledge; he cannot hire ideas. We should be the last to deery skill or knowledge. They are essential elements of education. But they should be gained by processes which make them the tools, not the end of culture. The man should be the master, not the slave of his learning; and whether he is the one or the other depends very largely on the way his knowledge has been gained. And it is better to be the master of a little knowledge, with capacity to use it creatively, than to be the unproductive carrier of all the learning in all the libraries. Our young readers whose scholastic advantages, so-called, have been few, may well take the lesson to heart. Study to have ideas; life will give no end of opportunities for using them.

"THE PATENT RIGHT NUISANCE."

Under this heading the New York Herald ranges itself editorially with the opponents of inventors' rights, and discusses the alleged defects of the American patent system with the zeal of a recent convert and the ingenious perversion of the facts of the case characteristic of a misinstructed or unscrupulous advocate. The article reads very like a feeler thrown out by the clever attorneys who so persistently lobbied for certain anti-patent associations before the last Congress. It runs in this wise:

"Americans are notoriously the most inventive race in the world, and the number of patents issued yearly from Washington amounts to many thousands. An inventor like Edison, who has taken out more than 200 patents, is forced to spend no small portion of his time in ascertaining the scope of analogous inventions made by his numerous rivals, and it is alleged that the success of his recent experiments upon the electric light has been seriously impaired by finding that most of his proposed improvements were already protected by letters patent. Many of the more obvious inventions have been independently made by dozens of persons, only to find that they had been anticipated long before by some unknown individual who had never taken the efficient steps to make his invention known. The issuance of a patent thus becomes, in a vast majority of cases, only a means of repressing instead of stimulating independent inventions.

"That this evil has assumed vast proportions and calls urgently for remedy will not be denied by any one who is familiar with recent discussions in the scientific and technical periodicals. It is well known that nine tenths of the patents issued are of no practical utility, and only serve to confuse the inquirer and waste valuable time. Every invention of first-class importance has to be 'protected' by a score of minor patents which have nothing to do with the main discovery.

"It has even become a question of late, in Europe and America, whether the whole patent system ought not to be

brushed away as a mere impediment to the development of manufacturing industry, leaving future inventors to rely for their compensation upon such advantages as their exceptional facilities for the production and introduction of their specialities as would naturally follow from their priority in the race and their more perfect possession of all the details. In nine cases out of ten the change would be to general advantage; still, some provision ought to be made for discoveries of far-reaching value.

"Three remedies would seem to be desirable. In the first instance the number of patents issued might be restricted at least ninety-five per cent by refusing all applications for such patents as are obviously of little or no value, as well as those which do not represent any new principle. Secondly, many of those inventions which are really of great practical importance should be at once purchased by the government for the general benefit of the public, every inventor being required to state his terms on making his application. With inventors of real merit the government can well afford to deal generously. Lastly, all patents should be considered to have lapsed when it can be shown that a reasonable period has elapsed without any effort on the part of the inventors to introduce them."

The assurance with which the name of Mr. Edison is made a peg on which to hang a sweeping indictment of the patent system is positively amazing. Just think of Mr. Edison as a victim to patent rights! and of the community at large as being deprived of the blessings of electric lighting because other men had been at work upon the problem before Mr. Edison took it up!

If Mr. Edison's word is good for anything, the public has the best of reasons for believing that, so far from having been hampered by the patent system, he has, as an inventor, been largely a product of it. Without the protection it has given him he would never have been an inventor; certainly he would never have devoted his life to that laborious and expensive pursuit. He has made invention his business because there is money in it to him, though infinitely greater profit to the world at large. His inventions are paying property, because, and only because, they are protected as property by all civilized nations.

The second assertion is equally at variance with truth. Grant, for argument's sake, the absurdly untruthful statement that nine tenths of the patents issued are of no practical utility. Does it follow that "they only serve to confuse the inquirer and waste valuable time?" The very opposite is true. A liberal patent system insures the publication of all efforts in new directions, and that is a matter of infinite importance. In his exploration of the unknown every inventor strikes many blind or doubtful paths. Shall he, or shall he not pursue them? Time is limited and he has far to go. The records of the Patent Office ought to furnish him the results of all previous explorations. Every patent issued is, in this way, a means of saving fruitless effort and waste of time. Even "worthless" patents thus become valuable, as warning signboards to the explorer. In the records of the Patent Office he reads: "A tried this way and found it unprofitable;" "B tried this—no thoroughfare;" "this road leads to the property of C;" "this is where D was lost in fruitless exploration;" and he guides his efforts accordingly.

The great object of the patent law is to secure the early publication of all these mental itineraries; and every measure calculated to prevent their publication is mischievous. Not unfrequently, also, the "worthless" patent fails for lack of some means for overcoming a special difficulty, which means are supplied by a discovery made after the life of the patent has expired. It stands, however, a permanent contribution to the history of thought, and the next man is saved the first inventor's fruitless toil; he freely bridges over the difficulty by the aid of the last discovery, and the world gets a valuable invention which it would have missed had the original "worthless" invention vanished unrecorded.

The Herald's next statement with regard to the recent tendency of American and European thought, with respect to the policy of issuing patents for inventions, is another flat misstatement of fact. The current of thought, not only among the common people, but among statesmen, is decidedly in the direction opposite to that asserted. Witness the steady progress of foreign patent systems toward the liberality which has made the American system so superior to all others.

The tendency of all civilized nations is steadily toward the fuller and freer recognition of the rights of intellectual property. Countries which, like Switzerland, originally denied the possibility of intellectual property, proclaimed "free trade in ideas," and refused to recognize the inventor's right to the products of his inventive toil, have learned that sound policy as well as abstract justice demands an advance to the position of higher civilization, and are copying the American patent laws so far as they are able to.

The limitations of space forbid an extended notice of the Herald's "remedies." They have been presented in every possible aspect, by the agents of anti-patent associations, in the committee room and in Congress, only to demonstrate more clearly their pretentiousness, the impossibility of putting them into practice, and the certain injustice to inventors, small manufacturers, and the public at large, that would flow from an attempt to carry them into execution.

ENGLISH VS. AMERICAN RAILS.

A short time since Mr. Vanderbilt purchased in England, for the New York Central Railroad, 10,000 tons of steel rails. These rails cost, on shipboard, £5 a ton. To this must be added a duty of \$28 a ton, making the cost of the rails here