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THE SLAUGHTER OF RAILWAY MEN.

At the recent meeting of the Master Carbuilders' Association, Mr. Forney said that from 1,200 to 1,500 railroad employes are killed, and from 5,000 to 10,000 injured, every year.

Curiously the railway train is most dangerous before it leaves the yard, the hazards of the road being slight compared with those of the station.

In his address President Garay said that the present defective and expensive devices for coupling freight cars have been in use for many years without any marked improvement upon the old link and pin system. Although thousands of patents have been granted for improved draw bars and automatic couplers, many of them with some merit, yet none have sufficient advantages to place them in general use.

Though most of the injuries to train men while coupling cars were, he believed, the result of carelessness on their part, it was none the less important that some means should be devised and adopted which would prevent the present risk to life and limb in the making up of trains. What was wanted was an automatic coupler, dispensing with the use of loose links and pins, and at the same time admitting of their use when needed.

The committee on automatic couplers and drawbars reported that out of the 3,000 patents issued for devices of this sort they were unable to select and recommend one as a standard. The implication was that though some of the inventions were good there was none that satisfactorily met all the requirements of the case.

Whoever will watch the making up of trains in any large and busy yard will soon see abundant occasion to charge the yard-men with recklessness. It would be a harder task to discover how, under existing conditions, the work could be done without a constant running of risks that to a cautious onlooker would seem little less than foolhardy. So long as men have to go between cars to couple them they must be reckless—as a soldier is "reckless" who, in the discharge of his duty, exposes his person to the shots of the enemy. It is a problem for inventors to solve to furnish the means for obviating this great hazard to yard-men; and it is the business of railway officials to promptly put to practical test every device that seems reasonably well calculated to cure the evil.

Battles which have decided the fate of empires have been lost and won at a smaller cost in life and limb than that reported by Mr. Forney.

The urgent need of a better state of things has already made itself felt in legislative assemblies, and inventors may rest assured that the railway companies will not long be allowed to overlook or reject any device which shall meet the requirements of the case, even if they should be disposed to do so. The slaughter is too great to be tolerated in the face of a reasonable prospect of cure.

It is needless to add—what must be apparent to the dullest—that the patent for a successful coupler and drawbar would be an exceedingly valuable property.

EMPLOYMENT FOR THE IDLE.

The appearance of Sir John Lubbock's book on "Ants, Bees, and Wasps," suggests the query why books of this character are so rarely produced by our fellow-countrymen. Lubbock devoted ten years or more to the accumulation of the facts that make the book so valuable. It cannot be that Americans are so deficient in the powers of observation that none can be found competent to watch "the busy bee improve each shining hour," and gather facts sweeter than their honey from every tiny insect. It is generally said that we are too busy and that it "don't pay." Are we too busy for polo, and do intercollegiate boat races pay? It is too true that scientific investigation is dependent upon wealth. Had Lubbock been a poor man, compelled to earn his daily bread, he could not have given his days and his nights to the study of ants, simple and inexpensive as were his apparatus and materials. Much may be learned of the habits of birds or insects by an occasional glance at them in spare hours, but study, to be of scientific value, must be close and persistent, to the exclusion of many other things. Few who are competent feel that they can afford this. Among the hundreds that go forth annually from our scientific schools there must be a few endowed with talents for observation, but more lucrative positions await them. The average "graduate" counts his time worth at least $1,000 the first year, $1,200 the next, and so on. Is he wrong in doing so? He has devoted the four best years of his youth to it, he has expended a large sum of money, he has exhausted his own inheritance, and is, perhaps, in debt for his education. Such is the condition in which many a scientific graduate finds himself at the moment of taking his degree. He really *can't afford* to devote himself to unprofitable work—unprofitable from a money point of view. He is not yet a Lubbock or a Darwin. He must serve a long apprenticeship, retracing old and well-worn paths, before he is able to explore a new one. Too rarely has his power of observation been cultivated while under the care of instructors, who have had to content themselves with cooking mental pabulum and setting it before the hungry students, who bolt it, unmasticated, into their overloaded heads (more often merely into their note books), and who go forth from the halls of learning praising the skill of their cooks, and unaware that they are foreordained victims of mental dyspepsia.

Fortunately our Government, like many others, is opening the door for a few real students, whether college men or not, to pursue their bent by giving them a sort of apprenticeship. Accompanying King, or Gilbert, or other explorers of Western wilds, are young men who are having their wits sharpened and their powers of observation trained in a rough but practical school. Their expenses are paid, and they have no care but to do their whole duty.

But there are other fields of study nearer home, fields that the Government cannot undertake to cultivate, the insect world being one of the most fascinating. Who will essay to do for our country, and for some of our insects, what Lubbock has done for ants abroad? The field is not exhausted, and no domain is barren if properly cultivated. We have a wealthy, idle class, less idle than the English it is true, but men who have no need to labor with hand or head, and who are free from every care. To-day hundreds of young men are scouring the forests of the Adirondacks, or shooting the rapids of the St. Lawrence, not in search of "one impulse from the vernal wood," but impelled by fashion, and boring themselves to death because it is "quite the thing you know" to rusticate. Here is the material from which the ranks of unpaid investigators ought to be recruited. Does not Lubbock write M.P. and Bart. and other significant letters after his name? Where is the M. C. that has done as much, and which brings him the more credit and renown, his services in Parliament or his labors among the ant hills? Is investigation likely to lower the dignity of the son of a millionaire?

We have pointed to this as a waste of valuable raw material; men of brains, of leisure, and of means, seeking in vain for some new way of getting rid of the most valuable thing on earth—time. But they are of no use to us or to science; let them finish their days as they have begun, let them listen to a few law lectures that they do not understand, or join some political party and set up for statesmen if they have money enough to buy an office. But shall this thing go on for ever? Is it not possible to cut off, in part at least, the source of supply by turning it to other channels? Many of these young men who have now no thought beyond the morrow, no higher ambition than to color a meerschaum, were boys once, real, genuine, inquisitive boys. Then their powers of observation were capable of cultivation, then a love of nature could have been implanted in their souls, and life would have been brightened by an object, and one worthy of a life-long pursuit. When teachers cease to hold up as models those great men who, like Lincoln and Garfield, have risen from poverty and obscurity to the presidency, and point with pride to the boys who, in spite of wealth and luxury, have had the courage and perseverance to do a noble act by devoting their time, money, and talents (for some rich boys have genius as well as poor ones) to the study of nature, when teachers begin to have common sense, we may hope to see some of this valuable material rescued from its present *downward* course. Rich men are not all fools, and there are some who would take pride in a son who, although he might not be a Leidy or a Lubbock, a Darwin or a Dawson, should be able to associate on terms of scientific equality with men of that class.

Unfortunately few schools exist, probably none, where the nature-loving boy can go that he is not in danger of having that faint spark crushed out of his young soul by the memorizing and cramming process that the marking and grading system necessitates, so that, having studied nature in books, when they go out to look for her they do not recognize her. When and where shall this lack be supplied?

Certainly it may be said that nature is spreading a bountiful harvest, but the laborers are few. Let those who have time, money, and brains, lend a hand, feeble though it may be, in unlocking the secrets of nature.

Curious Electrical Phenomena on Pike's Peak.

Sergeant L. M. Dey, signal officer at the summit of Pike's Peak, writes: "At 8.45 o'clock this evening, on opening the door, a most curious phenomenon met my astonished eyes. The line on the summit was distinctly outlined in brilliant light, which was thrown out from the wire in beautiful scintillations. On near approach to the wire these little jets of flame could be plainly observed. They presented the appearance of little electrified brushes or inverted cones of light—or more properly little funnels of light with their points to the line, from which they issued in little streams about the size of a pencil lead, and of the brightest violet color, while the cone of rays was of a brilliant rose-white color.

"These little funnels of light pointed from the line in all directions and were constantly jumping from point to point. There was no heat to the light, though it was impossible to touch one of these little flames, for as soon as they were approached by the finger they would instantly vanish or jump to another point on the line. Passing along the line with finger extended, these little jets of flame were successively 'puffed out,' so to speak, to be instantly relighted in the rear. It was a curious and wonderful sight. No sensation was experienced on applying the tongue to the line. Not only was the wire outlined in this manner, but every exposed metallic point or surface was similarly tipped or covered. The cups of the anemometer, which were revolving rapidly, appeared as one solid ring of fire, from which issued a loud, rushing, and hissing noise. The wind vane represented a flaming arrow, and a small, round, wooden stake—stuck up in the snow to show the position of the gauge—was similarly tipped, as well as an angle of our stone chimney.

"In placing my hands close over the revolving cups of the anemometer—where the electrical excitement was abundant—