THE MAJORS CHEAP MOTOR

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HIS GREAT IDEA IN WHICH THERE ARE MILLIONS.

THE MAJOR AFTER DIGRESSIONS UNFOLDS TO DICK A SCHEME AND DICK SUGGESTS AN IMPROVEMENT.

CATSKILL, Aug, 21.—We all noticed that the Major has acted strangely of late, spending hours alone, plunging deeply into a tangle of mathematics, and going around with the air of abstraction peculiar to a man who has either incautiously swallowed an unripe melon or has something on his mind. Dick once tried delicately to gain the Major's confidence by asking him what the devil he meant by such conduct, but the Major smiled in a superior way and said we'd see one of these days, and then drew out Haswell’s “Manual of Engineering” and spent four hours ciphering with logarithms. Yesterday morning, however, he came down to breakfast radiant and said he had it at last. Dick looked up in alarm and wanted to know whether it was smallpox or the mumps, but the Major replied that it was something scientific and useful, and so Dick need have no fear of catching it. This bit of Oriental repartee was calculated to settle Dick, but Dick looked grave and said he had told every one that he knew the Major wasn’t permanently insane, and asked him to unfold the scheme at once and let us in on the ground floor if there was money in it. The Major said there was money in it, and millions, and that after breakfast he would like to have Dick or any one find a flaw in it.

Well, after breakfast, we all went to a secluded nook in the grove, and there, after satisfying himself that the old lady who was asleep in the hammock ‘was not really eavesdropping, the Major imparted to us his secret. He said the most important requirement of the human race in this mechanical century was a cheap and effective motor, capable of doing such light work in every household as sawing wood, rocking the baby, grinding sewing machines and coffee, pumping water, running elevators, and so forth, labor-saving machinery is an essential to civilization, and if we all had to work 19 hours a day to accomplish what a fair steam engine can turn out in four minutes we would soon drift back into the ignorance and gloom of the Dark Ages. Here the Major paused, and Dick said that was a good exordium, and that if the Major's scheme was to peddle razor strops and give free lectures, he thought it would be a go. The Major ignored this sally, and went on to say that it was all very well to place reliance in steam exclusively, but steam required coal, and Prof. Agassiz has demonstrated that at the present rate of consumption the coal beds of the entire world will be exhausted in 9,700 years, and then where will we be? This crushing argument was leveled squarely at Dick, and Dick thought it over backward and forward and remarked that he always knew there was something wrong and was glad to know exactly what; that he didn’t know where we would all be in 9,700 years, but felt reasonably sure, if certain accepted theories were true, that the Major would be where he wouldn't have to bother himself about coal. Upon this the Major arose in a dignified manner and remarked that it was very easy for persons of a flippant and ribald nature to joke at the expense of science, but the time would come when—at this juncture Dick apologized and said he didn’t mean to interrupt, but that somehow he hadn’t as yet taken much interest in affairs 9,700 years hence, but would try, for it was every man's duty to provide for the future and not fool along from day to day. This mollified the Major, and he sat down again and resumed. The whole fabric of political economy, he said, rested upon power as applied by man to the arts and industries. To compel a man to earn subsistence by his muscle is to condemn him to poverty and humiliation. (Here Dick wanted to know if John L. Sullivan was an example of this—but the Major frowned.) To give a man machinery capable of doing the same labor leaves him free
to cultivate his brain, invent telegraphs, telescopes, draw poker, and other scientific embellishments of modern civilization. Yes, the Major said, mechanical power is the foundation of human prosperity and advancement, and the crying need of the hour is, as he had remarked, a cheap motor, within reach of persons of modest means, adapted to the household and capable of saving labor in domestic directions.

Of course we realized from this that the Major had made a startling invention and were proud of him. Even Dick

braced up and tried to look scientific as the Major continued.
Looking at the question practically he says we have only three motors at present from which to choose—the windmill, the steam engine, and the Keely motor. The windmill is too unreliable. Suppose a man depended upon a windmill to run his house? Why, during a blizzard it would do a week's housekeeping in seven minutes, and in the dog days would take a week to grind two spoonfuls of coffee. The steam engine, of course, is reliable, but costs money, raises the insurance, requires an engineer, and is apt at any moment to provoke a Coroner's inquest. The Major said he bought a steam engine once for $200, and on the third day of its work on the farm it blew up and killed a red-headed servant girl and nine pigs, all which were a total loss. He believed in the Keely motor and knew it was thoroughly practical, with one trifling exception—it wouldn't work. The Major thought Keely's mistake lies in attempting to derive power from a violin bow, but Dick said a bow properly handled has enormous power. Once he took lessons on the fiddle in an amateur way, and in less than a week developed so much power that the neighborhood was almost depopulated.
So we see, continued the Major, that with all her discoveries and improvements, Science has not yet supplied us with a motor adapted to home wants, and that very requirement he now proposed to fill. The true Principle of scientific economy, said the Major, is not to discover new forces, but to invent new means for utilizing forces lying idle around us. We utilize the horse, the mule, and the ox, for example, and turn their stored up powers into sawed wood, plowed fields, and buggy rides; but, although this experience pointed the right path, our advance ceased with the employment of these animals, and we now cry for new and costly motors, or even demand that Niagara's thunders shall be hushed that woe may use her power, when the true solution of the problem runs riot in every household in the land-mice. The mouse, said the Major, is the cheapest and most reliably industrious of domestic animals, and hitherto has been allowed to go to waste. Of course the mouse's individual power is limited, but so is that of one drop of water converted into steam, but large numbers may be simultaneously employed. An active and painstaking mouse can easily, upon a cat or other emergency arising, transfer himself through a distance of 12 feet in a second, or 120 feet in a minute, or 7,800 feet in an hour. A mouse weighs, say, one-twelfth of a pound, or as much as an ounce of gold, although he hasn't the same value. Both these facts being true, it is clear that the liberated energy of a well scared mouse is equivalent to raising one-twelfth of a pound 7,800 feet in one hour, or 7,800 pounds one inch in an hour. Twelve mice can lift, therefore, 7,800 pounds one foot in the same time, and a gross of mice multiplies this result by 12, which is considerably in excess of the power of a horse. A good horse costs, say, $200, a pair of mice costs nothing, and one pair is all a man will need, for by the time he has set up the machinery he will find be has a gross on hand, and after that the supply will be, if anything, in excess of the demand.
To utilize the now latent energy of the domestic mouse, the Major says, was a mechanical problem which cost him many hours of labor and ingenuity, but he has solved it so as to meet both the requirements of utility and economy. The motor consists simply of a wire treadmill placed in a suitably dark closet and connected by belts or gearing to the machinery outside. Entrances to the treadmill are fitted nicely to gnawed thoroughfares leading to the haunts of the mice. To start the motor it is only necessary to insert a small piece of toasted cheese in a cage just outside the treadmill and half way up the circumference, Mice will immediately arrive and work - with amazing enthusiasm to get that cheese, thus revolving the mill, which then does the labor required. A careful study of mice, says the Major, has convinced him that their athletic employment in a treadmill seemingly voluntary, will appeal to them as being a sort of gymnastic amusement, possibly remunerative with toasted cheese at minute; and not perceiving that it is really useful labor, they will enter upon the race with reckless enthusiasm and be totally indifferent to fatigue. New arrivals of fresh mice will occur from time to time, and these will stimulate the workers to more vigorous spurts, lest the last, comers carry off the coveted honors, and thus between their rivalry and their appetite, the Major says, the mice will make things hum. Of course after several hours hard labor a mouse will be compelled through sheer exhaustion to knock off for a-spell-and take a nap, but always believing he is the best mouse in the gang, will resume the race as soon as he has caught his breath and work harder than ever. If a reverse motion is ever required it will only be necessary to shift the cheese by a suitable lever. The Major says the entire apparatus, exclusive of the mice, will not cost over $14. As mice work with more zeal during the night, he proposes to attach an air compressor to the treadmill, which will store up power in a wrought iron tank, to be used at any time, and thus, although the habits of the mice may be irregular, the action of the motor proper will be constant and reliable, Furthermore, the Major said, a vast increase in power can be obtained at tripling increase of cost a 500 mouse power treadmill costing but 64 cents

more than one accommodating but 36 mice, and requiring only one ounce more cheese, while the mice will multiply themselves as fast as the wear and tear will necessitate. By this simple contrivance, concluded the Major, not only would the burden of household cares be vastly lightened and machinery become practicable in every home, but there would be a vast moral and physical improvement in the condition of the domestic mouse itself, which would then abandon its now profligate and destructive career and become a laborious and deserving member of society. Having thus formulated the principles of his invention, the Major received our congratulations and asked us if we could suggest any improvement; said that ingenious laymen sometimes gave really useful hints to scientific investigators, and he would cheerfully consider any proposition, however crude. None of us hand any idea to offer, but Dick said that he thought he saw how an extra kink or two might be inserted. The Major smiled a little superciliously, but Dick went on to say that if he had that motor in contemplation, he'd make it buzz.

The Major smiled again and wanted to know how. Dick said he'd have a second treadmill under the first, and insert about a dozen cats, and he'd lay they'd make the mice buckle down to work and under the cat mill he'd have a third, loaded with active terriers, who would go for the cats and sort of stimulate them to put in their best licks, and when the dogs got lazy he'd build a fire under them and wake them up. By connecting all three mills to the same shaft, Dick says he'd get 19 times the amount of power without being compelled to resort to such a low artifice as cheese. The machine might be a trifle noisy, Dick says, but he will bet a new hat it would compress more air and devilment in five minutes than a small family could use in a week.

The Major says Dick's idea, although rough and somewhat complicated, has its good points, and is well worth the price of a caveat. He is convinced there is quite as much value in the invention as in the Keely motor, and will apply for 37 patents early next week. Meanwhile, we are in search of a capitalist to back the thing up, and Dick says that if the fool killer doesn’t come around for several weeks he has no doubt of our success. H. G. C.

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See Also

Keely Chronology