

NOT EVEN IF IT COST TWENTY SHILLINGS.

A **NOTABLE** percentage—about one-third, I think—of the power of a steam engine is used up in overcoming the friction of its own parts. Hence inventors are constantly testing devices to reduce friction. Yet they can never overcome it; and the resistance created by its resistance power (and hence expense also) absolutely lost.

Now the human body is a machine propelled by heat, exactly as an engine is; and anything that retards it may be considered as friction. Very good, then.

You have noticed great differences in your own vigour. Some days you work easily, and on others with difficulty. This is so whether you are chiefly a muscle-worker or a brain-worker; or a mixture of both—as most people are. Occasionally you are able to do more work in a day than at other times you can do in three. It is the odds between walking on smooth, hard level ground and dragging yourself uphill through wet clay. What wouldn't lawyers, authors, clergymen, and all other brain-workers give for something having the power to keep their minds clear and strong? Or body-workers for something that would prevent aching, weakness, and fatigue? Do I know what will do it? No, I don't. If I did I could retail the secret for more money than is stowed away in the Bank of England. But I do know one thing, and will tell it you in a minute—or nothing.

First, however, we will talk of Mr. J. B. Goss, and the friction he tried so long to overcome. Mr Goss is a large farmer living at Strathairn, near Downham Market, Norfolk, and is well known in his district. When the farmers meet on market days he often speaks of his experience and how he came out of it.

In order to cover it all he has to go back fifteen years—to about 1878. At that time he began to feel the signs of some disease which he could neither account for nor understand. At first he merely realised that he was out of condition. His work became less and less a pleasure and more and more a task. From his business his thoughts turned upon himself, and no man can work well in that form. Then he and his vicinals began to disagree, which is a state of things to make a man ask what can the reason be?

He had a well-provided table, of course; yet he often sat down to his meals and couldn't touch a morsel. Mr Goss knew that this would never do. If a man expects to live, he must eat. There are no two ways about that. So he ate more or less—although not much—without the stimulus of an appetite; he forced it down, as you may say. But this wouldn't do either. When the stomach goes on strike it can't be whipped into working before the question at issue is properly settled.

Thus it ended in his having great pain and tightness at his sides and chest. 'I was constantly belching up a sour fluid,' he says, which ran out of my mouth like vinegar. I had a horrible sensation at the stomach for which I was not able to find any relief. For nights together I could get no sleep; and in this general condition I continued for five years, no medicine or medical treatment doing more than to abate some of the worst symptoms for the time being.

'In the early part of 1883 I heard of a medicine which was said to do good in cases like mine. Whether it would help me of course I had no idea. After so many things have failed, one naturally has no faith in a new one. Yet I got a supply and began with it. In a short time it was plain that I had come upon the real remedy at last. My food agreed with me, and soon all pain and distress gradually left me. Since then (now ten years ago) I have kept in the best of health. If I, or any of my family all anything, a dose of Mother Seigel's Curative Syrup—the medicine that cured me—soon sets us right. We have no need of a doctor. (Signed) J. B. Goss, March 24th, 1893.'

Mr Goss once said that if Seigel's Syrup cost 20s a bottle he would not be without it in his house. We can easily believe him. Considering what it did for him—and does for others—it would be cheap at any price. Yet, like plenty of things of the highest practical value, it costs but little. The reader can imagine under what difficulty and friction Mr Goss must have done what work he did during those five years' suffering with indigestion and dyspepsia.

This then, we know, this life's friction and loss of power comes chiefly from that single disease, and that case arises from the use of Mother Seigel's great discovery.

UNWELCOME VISITOR.

'THEY BRU' has this bit of a story about one of the class children, and others, who are at the truth:

'You are sure that Mr Bowton is not at home?' asked the caller.

'Well, I ought to be,' said the honest servant. 'He told me so when I took your card up, and he said if you would call some time when he was out he would be glad to see you.'

THE FIRST ELECTRIC RAILROAD.

'THE first electric railroad, trolley road, ever established and successfully run in the world was built not in this country, as most persons would naturally suppose, for the idea was American all the way through,' said a prominent railroad man who only recently returned from a tour of the world, to a *Washington Star* reporter, 'but in Ireland. It runs along the north coast of Ireland, from Port Rush to the Giant's Causeway. It has been a success from the start, and though it has been greatly improved during the past year or so, the original poles are still in use. There is a very heavy travel during the tourist seasons to the Giant's Causeway, which is one of the natural wonders of the world. The owners of the road patterned after a small model which they saw in running operation at the Centennial Exposition in 1876, and had it constructed the following year. Before that visitors were taken to the Giant's Causeway in all kinds of conveyances, principally the jaunting car, but this mode of transportation was not exactly satisfactory, for the distance that had to be travelled was over seven miles from Port Rush. This meant fourteen miles of very rough and at times dangerous travel. It was also expensive. The trolley road does the work in less than an hour, and it has been the means of greatly increasing the numbers who make the trip. The most violent opposition was made to the trolley by the jaunting-car trap owners, but this has completely died out. Suite of all kinds were brought against the trolley, but beyond having to pay for a few goats, cows and calves killed, the management has had to pay no very serious damages. On the other hand, it has steadily made money. It is fair enough, however, to give credit, and there are cards in each stating that the system is of American invention. There is no record of a trolley line in operation in this country for four or five years afterward.'

PASSENGER WHEELBARROWS.

THE wheelbarrow affords one of the chief means of travel and transport in China, (says *Iron Age*), especially in the northern part of the empire and throughout the great plain. The Chinese form is a decided improvement on the types used in Western countries, for it is so constructed that the load, which sometimes is very great in bulk and weight, is carried over the wheel, and not between it and the man who propels it. The high coast of timber and the bad roads throughout the country necessitate the wheelbarrows being both wide and strong, with axles and wheels able to bear the strains which they experience. The wheelbarrow is generally constructed of oak, at a cost of about 15s. Its weight is about 120 pounds, extreme length 5 feet 6 inches (including shafts), extreme breadth 3 feet 2 inches, and height 3 feet 6 inches. The wheel is 3 feet in diameter and has an iron tyre 1 1/2 inches wide by 1/2 inch thick. To aid in steady and propelling the vehicle the wheelbarrow man wears a strap across his shoulders which is attached to the shafts on each side. Boxes, bales of goods or whatever the loads may consist of are secured to the wheelbarrow by ropes. The charge for carrying an average load is about 1s 6d per mile, but varies according to the load and the state of the road to be travelled over. The wheelbarrow has seating accommodations for four people, two on each side, and the fare for four people is 2s 2d per mile. Passenger fares are lower than those for merchandise, on account of the avoidance of labour in loading and unloading. A cushioned seat is provided for the passenger, who generally sits with one leg resting on the front of the barrow and the other hanging over the side in a rope loop, which serves as a foot rest. Thus a native is wheeled for miles over the rough roads of the country, with severe jolting accompanied by a peculiar squeak of the axle in the case of most barrows. Immediately behind the wheelbarrow, between the shafts, there is a long, oblong-shaped basket, in which the wheelbarrow man keeps his few belongings. On the great plain wheelbarrows are occasionally seen with a sail set, when a fair wind proves a great help to the trundling of the barrow over a level way.

Since the institution of cotton mills at Shanghai (foreign settlements) the wheelbarrow has been extensively used as a passenger vehicle, especially for carrying workwomen to and from the mills. One man can wheel six women for a distance of about three miles, morning and evening, the charge being 1s 6d per month. The average earnings of a wheelbarrow man are about 8s 2d per day. About 4,000 licenses are issued monthly for the same number of wheelbarrows plying for hire in the streets of the foreign settlements at Shanghai, where, being under municipal regulations, they are perhaps the best in China. The fee for a license is 11s 4d a month, and no wheelbarrow is allowed, according to the regulations, to carry more than six and one-half chests of tea or eight

and one-half boxes of keroseene oil or twenty and one-half boxes of soap (thirty pounds each) or ten boxes of soap (fifty-two pounds each) or two boxes of American plow goods. The width of the packages must not exceed four feet—that is, two feet on each side of the barrow—and no wheelbarrow is allowed under any circumstances to carry more than 600 pounds of dead weight. These regulations are, however, not strictly adhered to. Sometimes in the streets of the foreign settlements at Shanghai about fifty wheelbarrows may be seen travelling one behind the other, each carrying two barrels of English Portland cement, and pushed by one man. Very frequently, however, a load is carried on one side of the barrow only, so that the edge of the 1 1/2-inch tyre cuts into the macadam roadway like a knife. The balms sometimes project three feet on each side, the man pushing the barrow being almost invisible from the front. The municipal roads are chiefly of macadam and the damage they sustain from this traffic is very great. It has been found, after repeated experiments, that granite broken to pass through a three-quarter-inch ring and rolled in the usual manner is the only kind of macadam roadway that will stand this severe traffic. It is extraordinary to see a Chinese skillfully balancing and propelling a heavy load on one side of a barrow, and considering that there are about 4,000 of these vehicles travelling through the streets of the settlements, in addition to a large traffic of other kinds, the upsets and accidents are remarkably few.

WARS STEADILY GROWING SHORTER.

WITH the exception of the Franco-Russian war, the greatest war which Europe has seen since the days of Napoleon was the Crimean war (says the *Boston Advertiser*), which took place more than forty years

ago and lasted about two years. The campaigns of Napoleon, of course, while they were considered short as compared with some previous wars in Europe, were certainly long as compared with the wars of the past few decades. A distinct movement in the direction of the shorter duration of wars is to be noticed in the past few centuries.

The campaign in the Spanish Netherlands lasted forty-two years. Then followed the Thirty Years' War in Europe, ending in the peace of Westphalia. Civil war in England lasted from 1642 to 1650, although hostilities were not in progress all that time. The wars of the Spanish Succession, of the Austrian Succession, the Swedish-Russian War, and the Seven Years' War followed, averaging about ten years apiece. The French and the American Revolutions averaged about seven years apiece. The Napoleonic campaigns covered nearly fifteen years. The Crimean War lasted from 1854 to 1856. In the War of the Rebellion, in this country, the world saw the latest war which extended over four years of time.

Since 1865, with the general introduction of the telegraph, the electric cable and the modern system of railways, war has become a matter of a few months at most. In 1866 Prussia defeated Austria in seven weeks. Prussia defeated France in about two months. The war between Russia and Turkey began in April, 1877, and was practically finished by the close of that year. The war between China and Japan began about midsummer, 1894, and ended in March, 1895. The present war between Turkey and Greece seems to be practically ended in about four weeks from the outbreak of formal hostilities. It seems to be shown by experience that two important civilized nations in these days of telegraph and railway cannot conduct wars for any length of time unless the contending countries are separated by the ocean or some other natural barrier.

HOW TWO BEAUTIFUL CHILDREN

Were Rescued from Disease, and Restored to Health and Happiness by Ayer's Sarsaparilla.



Throughout the world Ayer's Sarsaparilla is noted as a blood purifier and a tonic and invigorator. Testimonials to its worth are to be numbered by the thousands, and come from all the four quarters of the globe. One of the latest is from Miss Mary Maguire, a well-known Philadelphia business woman, who has two nephews, both aged five years, Elliott Maguire and Walter Kester. Out of gratitude for the cure of their diseases by Ayer's Sarsaparilla she sends us their portraits, which we reproduce above, and writes:

'I can safely say that Ayer's Sarsaparilla has saved those children much agony and perhaps their lives. Since they were born, not one dollar in doctor's fees has been spent upon them, and the only medicine they have taken has been the Sarsaparilla. They first began on it two years and a half ago. They hadn't been strong, but were never exactly sick till then. It was early in the spring and both children, who are cousins of almost the same age, fell ill at the same time. Elliott's trouble was chiefly in his stomach at first. He had violent indigestion, and at such an early age that was something alarming. Then eczema made its appearance. These unhealthy conditions were largely hereditary. The little boy's skin began to blotch up and eruptions made their appearance. With Walter it was different. His arms and the upper part of his legs were badly swollen and the veins seemed to stand out like purple coils. He also had stomach trouble, which was inherited, and it is pretty hard to get medicine to cure inherited diseases. However, I had seen Ayer's Sarsaparilla advertised to cure such cases and I got a bottle of it and gave it to both boys. The first bottle produced a really remarkable change. It was wonderful. Then I began a regular Ayer's Sarsaparilla treatment. I gave the medicine to them three times a day. The blood troubles disappeared and their skin cleared up splendidly. Then their stomachs got into condition again. Since that time I have given it to them regularly every spring. They have got so used to taking it in that season that when I miss a dose they say: 'Auntie, you forgot our Ayer's.' They have never had any other medicine whatever, and that alone has cured them and made them well, strong and hardy. I consider the Sarsaparilla a wonderful medicine.'

Ayer's Sarsaparilla,

Makes Rich, Red Blood, and Invigorates the Entire System.