

girders, is about  $1\frac{5}{8}$  miles. The superstructure is composed of Siemens-Martin steel, of which over 50,000 tons have been required, and the piers in the river are nearly fifty feet in diameter at the top above high-water mark, and faced with grey granite.

It is a curious thing to see this gigantic structure slowly developing in the air as if it were a living growth. For the hydraulic riveters make no din, and the size of the cantilevers is so vast that the workmen and their machines appear like midgits far aloft. Two or three thousand men are engaged on the work, but they are scarcely to be seen or heard. They are lost in the airy wilderness of steel, like rooks amongst the branches of a tall elm-tree.

The reader will be able to judge of the dimensions of the structure by comparing the cantilevers with more familiar objects, such as the trees of the shore,

the lighthouse on the end of the Ferry Pier, or the cranes employed on the summit. As a Grenadier Guard is to a new-born babe, so is the Forth Bridge to the Britannia Bridge of Stephenson. There is no greater monument of the "iron age," for the Eiffel Tower is a mere gilded toy in comparison. Fortunately we have every prospect of its safe completion, since it has stood the test of several very high gales, and with the connecting girders in position, the strength of the whole must be very much increased. A considerable number of deaths by accident have taken place amongst the workmen, but these have been owing to their own carelessness and disobedience of orders, rather than to any fault in the arrangements of the contractors, and the successful execution of the work is largely owing to Mr. Arrol. Most likely the great viaduct will be formally opened towards the end of this year.

J. MUNRO.

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FOR ME.

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WHEN I would see  
The fairest stars that shine at night,  
I gaze upon thine eye's soft light,  
And stars shine there for me.

When I would know  
What flowers have the sweetest grace,  
I look upon thy beauteous face,  
And straightway roses blow.

When I would hear  
The music of all nightingales,  
I listen to the soft love-tales  
Thou whisperest in mine ear.

And so, for me,  
Thou star and flow'r and music art,  
And there is nothing that my heart  
Desires, not found in thee.

J. T. BURTON WOLLASTON.

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A WORD ABOUT INVALID DIET.

BY A FAMILY DOCTOR.



IF it be a fact—and who shall dare to doubt it?—that pure blood is made by food, and not by physic, the subject of my paper to-day needs to be prefaced by no apology.

Although, however, it is more especially addressed to the invalid, whether chronic or otherwise, and to the convalescent, "those who are whole" may gain a

few useful hints therefrom. Let me remind the reader at the commencement that the food we eat is meant to nourish the body; that those who eat for the pleasure of eating, too often over-eat; that it is not the amount actually swallowed, but that which is digested which must be called nutrition; that one of the evils of eating more than sufficient is to set up fermentation in the stomach and other portions of the digestive canal, causing acidity, eructations, painful flatulence, and sometimes

diarrhœa; that the nutrition of the system is thus very much interfered with, and good digestion rendered impossible; that the body takes days to get over an error in diet of the sort I refer to; that if this is harmful to those in health, it is doubly so to the delicate invalid, and that even those whose digestions are extra-strong suffer from over-eating in the long run, for instead of the food going to harden the muscles, and inure the body against cold and illness, it is stored up in the shape of clogging and unwholesome adipose tissue, and both muscles and nerves are weakened instead of being strengthened.

Now let me give one caution to those who may be acting as amateur nurses to sick or invalid friends or relations. The doctor will invariably lay down rules as to diet. You are to obey these unhesitatingly and to the very letter. The patient may fancy this or fancy that, but you must exercise denial even to sternness. Our tastes during health are safe guides to us, as a rule, in the choice of food; our palates were given to us for a purpose; but nurses must remember that in sickness the tastes become changed—often depraved, if I may use the expression; many and many a



precious life is lost every day from the errors in diet during sickness.

"Let the doctor say what he pleases," says the amateur nurse; "anything my brother fancies cannot hurt him. He shan't be kept on slops; he shall have a tender juicy morsel of grilled steak."

And he has the grilled steak, and his sister—the nurse—sits by him, smiling, while he eats it.

"What a pleasure it is," she says, "to see you pick a bit, dear! It will put strength in you, and you'll soon be your old self again."

But lo! that night the fever returns with redoubled force, the cheeks are flushed, the eyes glitter and look anxious, the arms are tossed over the coverlet. The doctor comes, and goes away looking grave. He comes earlier next day than usual. This shows his anxiety, and he has a little interview with the patient's nearest relatives. The sister's eyes are red when she returns to the bedroom. Need I continue this all too common story? Hardly. Suffice it to say that in a week or two there is an empty arm-chair in the brother's study, and an air of desolation about the place. His books are put away, and his pipes; he will come no more again.

The reader will note that in the above paragraph I have said "amateur nurse," for, of course, no trained nurse would be guilty of disobeying the doctor's orders in the matter of diet.

Well, as regards the health value of invalid diet, the same rules hold good as in the diet of those who are strong: that is, the elements of the food are the same. From the food that the invalid eats the blood is supplied, and from the blood the tissues are built up.

We must have fuel food and tissue food, and also the salts necessary for keeping the body up to the mark. These are usually found in the food eaten: namely, lime, potash, iron, and soda. If the heat of the body gets below par, debility and collapse are the result; if above par, we are wasted and consumed by fever.

In grains, in bread, rice, arrowroot, tapioca, peas, beans, sago, &c., we have what are called hydro-carbons, which serve to keep up the bodily heat. In vegetables, such as turnips, beet, carrots, parsnips, &c., we have hydro-carbons in the shape of sugar: in ripe fruits also, and in the vegetable substance stored by bees, and called honey.

Next we have the hydro-carbon fat. We have this in the animal tissues we eat; in the cereals also, such as Indian corn and oatmeal, and in nuts.

Then we have what I call tissue foods, which supply the waste that is constantly going on in our frames. These are albuminoids, and we find them in both animal and vegetable foods. Eggs of all kinds supply tissue food; so do mutton, beef, veal, lamb, pork, fowl, and game. Fish supplies them, though there is more water in the muscles of fishes, and therefore a larger proportion has to be eaten. It should be borne in mind that all kinds of fish are not equally digestible, and that fish requires extra care in cooking. From wheat, oatmeal, maize, barley, &c., we also get the albuminoids in abundance.

Now, in the choice of food for the invalid, when one has no doctor handy to act as guide and mentor, it is to be remembered, (1) That invalid diet must be chosen from those materials, whether animal, vegetable, or both combined, that are most easily digested; (2) That such food must be nutritious; (3) That the most careful cooking is required to render it fit for the weakened invalid stomach. I will now give a few hints about different articles of food, premising that these are gleaned from personal experience.

*Beef.*—When this can be eaten, it will be found not only very nutritious, but easily digested. The drawback is, as a rule, bad cooking. A morsel of tender grilled steak or a somewhat under-done cut from a joint is best. The meat must have been kept long enough to make it tender—*most* tender.

*Beef Tea.*—It is a good stimulant, and lies easily on the stomach. Take it with a morsel of toast.

*Mutton and Lamb.*—Both must be tender and well cooked. Mutton broth, with barley and a few vegetables in it, is very wholesome. But I would have the invalid whose illness is chronic to take as little slop food as possible.

*Veal and Pork.*—Do not be prevailed upon to touch either if you are delicate.

*Fowl and Rabbit.*—Both are fairly good; so is fowl or rabbit broth with rice, or preferably barley. But I am of opinion that neither fowl nor rabbit is so easily digested nor so nutritious as most people imagine. The cut from the breast of a large fowl is the best part for the invalid, and I should allow him just the tiniest morsel of well-done curled bacon, but not much sauce, and certainly no stuffing; for cooks have different ideas about the proper ingredients for stuffing, so the invalid is on the safe side who leaves it all alone. Turkey is excellent. Duck is passable. Goose must be eaten with caution. Sage and onions! Ugh! Give sage and onions to the farmer or huntsman, but the invalid is the sage who leaves sage on one side.

Nearly all sorts of game—venison perhaps excepted—form good and easily digested food for the invalid, only the cooking must be correct, and it should have been kept just long enough to render it tender, but not a day over.

*Fish.*—I have already said that bulk for bulk it is not so nutritious as meat. Fish is apt to create acidity. The best sorts are the white fish; all oily fish should be forbidden. The skin of fish is apt to disagree, albeit it is most tasty. Shell-fish, with the exception of oysters, should be avoided. A very few shrimps do good at times, and create an appetite.

*Eggs.*—They should be new-laid and lightly boiled. A new-laid raw egg swallowed whole—if this can be done—is best. It digests by degrees, and lies well on the stomach. Poached eggs suit well. They should, of course, be served upon toast. Custard with a little nutmeg—not much of this—is very valuable. Omelettes, whether plain or savoury, are good as breakfast dishes, but require great care in cooking.



Puddings of various sorts—bread, rice, tapioca, or rizine—are all good. The most ridiculous thing about the eating of puddings is this: after one has had a good and sufficient dinner, on come the puddings. And people really think they can always find a place for pudding. A more laughable error in diet it is impossible to imagine. But for that matter there is but little laughing in it for him who makes the mistake, for that pudding is generally the last straw that breaks the camel's back. Beware of pudding after meat, therefore.

Milk, in whatever way it can be taken, is excellent, light, and nutritious. Bread should be toasted. It ought to be stale, and the whole-meal loaf is king of loaves. Would I give an invalid cheese? Start not when I answer "Yes." Just the tiniest morsel if he fancies it, *before*, not after, a meal.

Oatmeal porridge is good for breakfast, if not too long boiled, and if thick enough.

For drink we have weak tea, cocoatina, whey, buttermilk, soda-water and milk, lime-juice cordial, with lemonade—this last is excellent in rheumatism—lime-juice and soda-water, and toast and water. I refuse to recommend either wine or beer.

Invalids should study variety in their meals, and abjure "twice-laid." Everything should be not only nicely cooked, but prettily placed upon the table. Time should be taken over a meal, and it ought not to be forgotten that mastication is the first process of digestion. I have not said much about fruit, by the way, but if ripe, most fruits are very good indeed, and should invariably take a place in the scale of diet for the invalid.

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## IN THE WILD WEST.

A STORY OF ADVENTURE. BY J. BERWICK HARWOOD, AUTHOR OF "PAUL KNOX, PITMAN," "WHAT THE CORAL REEFS GAVE ME," ETC.

### CHAPTER THE FIRST.

**I** WAS married in the quaint village church of Landford, one of those quiet nooks in old-world Dorsetshire where change and progress are more talked of than felt. And, as had been previously arranged, a month after our wedding I was on the high seas with my young wife. Edith, who was the youngest daughter of kind, studious Dr. Bromley—one of those country practitioners who would have more patients but for the physician's prefix to their names—and had a little money of her own (a thousand pounds or so) inherited from her mother, and which was settled so as to become her

portion when she married. With this slender capital it was our plan to settle in America, the rather that I had served my time in the office of a celebrated firm of civil engineers, and had, also, some knowledge of agriculture.

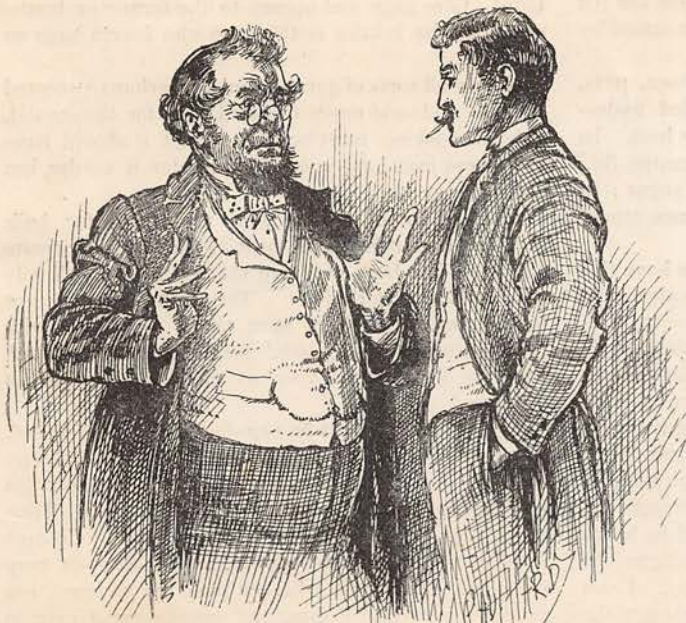
"Surely," said Dr. Bromley, who was sanguine for a man of his years and his profession, "Surely, Prescott, with two such strings to your bow as engineer and as farmer, in a new country like the United States you are certain to succeed."

I thought so too, and Edith was of the same opinion, and would, I am sure, have cheerfully faced with me a much less inviting prospect than that which lay before us.

As for myself, William Prescott by name, I was simply the only son of a former rector of the parish in which Dr. Bromley practised, and who had been able to give me nothing beyond the sound education on which I partly relied for success to the west of the Atlantic.

We did not linger long, Edith and I, in New York, but started at once on what an enthusiastic fellow-traveller designated as the track of the setting sun.

It was in Chicago, at the table d'hôte of our huge hotel, that I became casually acquainted with Mr. Julius Cæsar Frost, editor and proprietor of the *Banner of Freedom* newspaper, published in Jackson, the capital of Missouri. I had come to Chicago, hoping to find employment in the grain-growing Prairie States, but Mr. Frost was kind enough to give himself considerable trouble to convince me that the Prairie States were a mistake.



"I BECAME CASUALLY ACQUAINTED WITH MR. JULIUS CÆSAR FROST."