

THE GREAT AMERICAN STOMACH.

Special Correspondence of the Deseret News by Frank G. Carpenter.

WASHINGTON, D. C.—I spent an afternoon this week with Dr. H. W. Wiley talking about the great American stomach and the queer things which go into it. Dr. Wiley is in charge of the bureau of chemistry of the Agricultural department, and he knows more about what man eats than any other person connected with the government. He is Uncle Sam's chief authority on foods, and he has been studying and analyzing our eatables for the past twenty years. He has an international reputation as a chemist, and is a member of the chief chemical

scientists. They are government clerks receiving from \$50 and upward per month, and they have known that if they broke their oath as to eating they would probably lose their jobs with the government for all time in the future. The clerks chosen for the purpose were from twenty to thirty years of age. They were lusty young fellows in the prime of physical manhood, and they entered the boardinghouse of their own volition, agreeing to submit to its requirements. They paid nothing for food, Uncle Sam furnishing everything in order to ascertain, by actual test, the effect of certain adulterants, acids, and other things upon the human system. During these experiments the boarders were carefully watched. They were tested as a whole and as individuals, and if one lost weight too rapidly or

A Talk With Dr. H. W. Wiley About Queer Things Which Go Into It—Uncle Sam's Eating House and Its Tests of Pure Food—Borax and the Boarders—Some Poisons we Daily Eat—Formaldehyde in Cow's Milk and Blue Vitriol in Pickles—Doctor Wiley on American Cooks—Washington's Chicken Salads Made of Pork—Adulterated Whiskies—Alcohol and the Athens Athletic Games—Does it Pay to Chew?

livia, and it is also found abundantly in parts of California and Nevada. The stuff is practically tasteless and one might eat a considerable amount of it without knowing it, if mixed with other foods. Borax and boric acid are used

in their food was just like that of the ordinary boarding house, except that it was the best the market could afford, and that it was well cooked. In fact, for the first 23 days there was no sign that there was anything wrong. At the end of that time, however, the boarders began to lose their appetites. Every one had headaches, pains in the stomach, nausea, and vomiting. The symptoms were the same throughout, and there was no doubt but that the borax was the cause of the trouble.

These experiments were made over and over again. They were continued for a year, and then Dr. Wiley published his first report. This contained 500 closely printed pages. It gave the full story of the experiments and all the deductions therefrom. It was conclusive as to the injury done by these food preservatives, and it created a great outcry from the packers and food adulterators. Since then these men have sworn war against such investigations by the agricultural department. They have attempted to stop them, and it is now a question as to whether they have not succeeded.

OTHER POISONS WE DAILY EAT.

Before I give my talk with Dr. Wiley, I want to mention the work of the other three years at this experimental boarding house, the results of which have not been published. After finishing with the borax an investigation was made as to salicylic acid, a foreign substance which is put into beers, wines and fermented grape juice and which is also largely used in soda water syrups. Then an experiment was made as to sulphurous acid and its salts, which are employed in drying and expediting fruits for the markets; and after that benzoic acid was taken up and its effect upon fruits and pickles was determined.

Among the last experiments were those with formaldehyde. This stuff is put into milk and cream to keep it fresh, and it is also sometimes used as a disinfectant, its fumes killing bed bugs and other insects. Then other experiments were made as to foods treated with sulphite of copper, the stuff known as vitriol, which we consider among the most poisonous of drugs. It is an antiseptic and germicide, and is sometimes used as a caustic to burn out an ulcer or to touch up most every sort of food or drink he took during that time. Every man's diet was weighed and measured, and the chemists knew to a gram just what each ate. This was not only as to meat and bread, but as to puddings and every other food or drink filled, but at the close of the meals, stating what each had eaten, and every man was weighed at regular intervals and his feelings recorded. From these reports the chemists have made scientific deductions. They have analyzed the foods again and again, and their calculations have covered enough closely printed manuscript to fill a freight car.

In my talk with Dr. Wiley I asked him some questions about borax. He replied: "Borax and boric acid are used largely by the packers to cure hams, bacon and corned beef. They are cheap preservatives, but are not at all necessary, as the meats can be cured in other ways without them. All of such meats sold to the United States army and all exported to Germany are free from such ingredients. The Germans will not admit and the war department rejects them. Borax is also used largely for curing fish, and it is common in connection with our codfish. Boric acid is employed in milk and cream, and, in fact, these articles are found in many other things."

A WORD ABOUT ACIDS.
"Tell me something about the differ-

ent acids which are used as food preservatives?"

"There are many kinds," replied the agricultural chemist, "and we have tested most of them. Our first experiments were with salicylic acid. This is employed chiefly in foods which are liquid or semi-liquid. It is used in canned vegetables and also in jams, marmalades and sausages. You may drink it in soda water, and it is frequently sold by the drug stores as a fruit acid. This stuff is so injurious that the chief legislatures of the world are forbidding its use. France, Italy, Spain, Germany and Austria have laws against it, and so have some of our states."

"But how about sulphurous acid, Dr. Wiley?" I asked.
"That is used in evaporating fruits and also in wines. Sulphites are sprinkled over fresh meat to give it a bright red color. When so treated the meat blows over it all day and it will look just as fresh as when first cut. Indeed I should be careful in buying an especially red piece of meat in the market. If it is a natural red it is all right, but if it is a sulphite red it should be rejected."

"And then there is benzoic acid," continued Dr. Wiley. "That is used in sweet pickles and in other fruits where sterilization is not required. It is also employed in making catsup. Boric acid is used in butter and milk, and formaldehyde may be called the chief milkmaid of the lazy dairymen. Formaldehyde is highly injurious to children and also to adults, and it seems dreadful to think that it is sometimes mixed with milk supplied to babies. One of the chief reasons for its use is to conceal dirt. The man who employs it may have a dirty cow and a filthy stable, there may even be manure in the bottom of his milk bucket, and this would hide it. The best dairymen cool their milk down to 60 degrees as soon as it comes from the cow. They keep everything about their establishments scrupulously clean, and sell their milk pure."

"Is there any way of testing whether milk has formaldehyde in it?"
"Yes, if you will take three or four tablespoonfuls as a sample and put them in a taceup with an equal amount of strong hydrochloric acid and a bit of ferric alum about as big as a pin head, you can learn whether formaldehyde is present or not. The liquids must first be mixed together by a gentle rotary motion, and the cup then placed in boiling water for five minutes. At the end of that time if formaldehyde is present the mixture will turn purple. If it does not turn it is all right."

DR. WILEY ON AMERICAN COOKS.

I here asked the chemist his opinion of our foods and food preparations. He replied:

"We have the most abundant and best food of the world, but we live more poorly than any other civilized nation. We have the worst cooks and know least how to get the most out of our foods. Cooking is looked down upon here. It should be considered one of the arts, and a cook should command a high salary. I know families in Washington who live at the rate of \$5,000 or \$10,000 a year, and who, nevertheless, will send down into Virginia and get some ignorant colored woman to spoil their victuals. They will spend thousands of dollars on their tables and waste it all by skimping on the cook."

CHICKEN SALADS MADE OF PORK.

"Is there much food adulteration practised in Washington?"
"Yes. The chicken salad served at our receptions here is often half pork cut up into cubes and so dressed with mayonnaise that one cannot tell the difference. We have all sorts of deceptions practised upon us, and we

frequently know not what we eat."

"How about our drinks?"
"They are nearly all more or less adulterated, and this is especially so of our whiskies, both domestic and imported. I made a careful examination of Scotch whisky not long ago and created quite a sensation when I published the statement that there was not a bottle of Scotch whisky to be gotten in this country, excepting in clubs or private houses. Pure Scotch whisky is made of barley malt, cured over a peat fire, the peat for the purpose having been carefully prepared. I investigated this matter while I was in Great Britain, and found that the Scotch whisky the English were drinking was in fact made of Indian corn imported for the purpose. The corn alcohol was mixed with a little Scotch whisky to give it a flavor and the whole was sold as pure Scotch. The

of alcohol, and were therefore able to do better work than the Europeans."

DOES IT PAY TO CHEW.

The conversation here turned to habits of eating, and I asked Dr. Wiley what he thought of Fletcherizing. He replied:

"I suppose you mean the practice of chewing one's food to a pulp before swallowing. Senator Chauncey Depew is said to advocate giving each morsel 22 bites, and Fletcher keeps on biting until the food disappears of itself. I believe in chewing, but I think it can be overdone. Some foods should be thoroughly masticated. This is especially so with starchy materials, such as bread or potatoes, which are largely digested in the mouth. It is not so with meats. When the meat has been so bitten or torn apart that the acids of the stomach can reach it, it should be



UNCLE SAM'S EXPERTS MAKING CHEMICAL FOOD TESTS.

of this country and Europe, and a large part of the present discussion is pure meats and other foods which are now agitating the public mind is based upon his investigations, and more than any other man, he has awakened the people to a knowledge of certain poisons which we are taking in daily.

UNCLE SAM'S BOARDING HOUSE.

It was Dr. Wiley who originated the idea of Uncle Sam's boarding house, the government institution ever presided over by a national landlord. This has been a existence for the past four years, during which time the actual effect of prepared meats and adulterated foods has been tested by running them through a dozen government clerks, who were pledged to eat nowhere else but who had to subject themselves to regular examinations as to their physical condition.

This boardinghouse has been carried on in connection with the bureau of chemistry. A kitchen was established and the food was carefully prepared. Dr. Wiley has in many cases weighed out each ration of bread and meat, and he has seen that every man ate just the things required to make the test. The boarders have been con-

had more than an undue amount of headache or other ailments, his peculiar poison was omitted for a time, only to be resumed as he got better. By carefully experimenting upon the twelve men, Dr. Wiley has been able to gather a large amount of accurate information, from which himself and other scientists have made valuable deductions.

These food experiments have covered different articles from year to year. They started out with meats, and later on took up certain acids and other preservatives used in butter, pickles and canned foods. The scientists have tested different liquors, and have, in short, carefully examined almost every important article prepared by man for the great American stomach.

BORAX FOR MEAT, FISH AND OYSTERS.

During the first year the experiments were largely devoted to borax and boric acid. Every one of us has seen borax. Women frequently use it for washing their hair and also for cleaning clothes. It is a clear white crystalline substance, which floats on certain lakes and ponds in different parts of the world. I have seen great quantities of it on lakes in Chile and Bo-

by meat packers, dairymen, and those who prepare fish for the markets. They are sprinkled over oysters to keep them fresh, and are often put into the tub oysters, carried over the country. They are sometimes used in butter, milk and cream, and are frequently sprinkled over fresh meat and fresh fish.

BORAX AND THE BOARDERS.

When these facts were first published the packers claimed that borax and boric acid were harmless, and Uncle Sam replied:

"You may be right, but it will do no harm to test it." It was with this view that Dr. Wiley started his boarding house. He took these 12 lusty clerks and fed them food which contained just so much boric acid. Each man ate in one shape and another an amount about half the size of a pea every day for the first five days. For the next five days he was given double as much, and the quantity was gradually increased until he sickened. He was then put on a recreation diet, and when better started again. The stuff was so administered that the men hardly knew they were taking it. They could not taste it, and it gave forth no smell. To all outward appearances



DOCTOR WILEY, The Expert Who Weighs Food for Uncle Sam's Boarders.

price of the Scotch was more or less according to the amount of pure Scotch whisky in it, and this fraud was perpetrated by makers whose whisky is famous throughout the world."

"How about Irish whisky, doctor?"
"That is also adulterated, and the same is true of American whisky. Indeed it is almost impossible to buy a pure whisky without it being bottled in bond. Whisky is hardly fit to drink before it is eight years old, and one cannot keep it more than eight years in bond. The moment it is taken out it has to pay the revenue tax, and the result is there is little surety of getting it pure."

ALCOHOL NOT GOOD FOR MAN.

"What do you think about drinks, doctor? Are wines and liquors injurious to health?"

"That depends upon one's constitution. A moderate amount of wine benefits some persons, but as a rule alcohol is harmful and I should like to see them wiped from the face of the earth. I don't believe them necessary to health, and it is certainly remarkable that the German papers in discussing why the European athletes were beaten by our American boys at Athens ventured the argument that the Americans won because they were absolute abstainers from the use

swallowed. The longer it is kept in the mouth the worse for it, for the alkaline saliva retards its digestion."

"Did you ever see a dog eat meat?"
Dr. Wiley continued. "He usually bolts it, and if he chews at all, he uses his teeth largely on bread and such stuff. As to the French, they eat their bread first by itself and then their meat by itself, they chew the bread well, but swallow the meat with only slight mastication."

"How often should a man eat?"

"About three times a day. I am in favor of a light breakfast and a good luncheon and dinner."

"Do you believe in vegetarianism?"

"I think the Lord intended man to eat both meat and vegetables. He has given him the machinery to digest both."

"Do we not eat too much?"
"Yes, most of us do, although it is a curious thing that the natural man eats just about so much each day in proportion to his weight. We found this case in our experiments as to the consumption of dry foods. Every one of our boarders ate 1 per cent of his weight every day of that kind of food. The man that weighed 150 pounds as a rule ate a pound and a half of dry food a day, so that it took him just 100 days to eat his own weight."

FRANK G. CARPENTER.

GAS

Is rapidly coming to be the Universal Fuel and Light for Residences and Places of business. Some-time ago it was considered a Luxury now it is regarded as

A NECESSITY.

We are building a modern plant in Salt Lake City and will be prepared to install the Latest Gas Appliances at a very Reasonable Cost. Ask our representative to call and tell you about them, and make your applications now so we can do all the piping this summer.

UTAH GAS & COKE CO.

OFFICE 61-65 MAIN ST. 'PHONES 4321

A WORD ABOUT ACIDS.

"Tell me something about the differ-

IF YOU HAVE TO

WEAR GLASSES, be sure you get the best; they cost a little more, but are the cheapest in the end. WE MAKE ONLY ONE KIND OF GLASSES and that the best. Eyes tested free for glasses; if you don't need them we tell you so.

RUSHMER
DEFECTIVE EYESIGHT COR-
RECTOR.
72 West 1st St.
Both 'phones 1752.

J. H. KNICKERBOCKER,
OPTICIAN.
Scientific Eye Testing, Glasses Properly Fitted, Expert Watch Repairing. Removed to No. 227 South Main Street.

Hotel Grace

EUROPEAN PLAN.
Headquarters for Utah People and Mormon Missionaries in
CHICAGO.

Location, Opposite Postoffice and Board of Trade. Exact Center of Business District, Jackson Boulevard and Clark Street.
20 Rooms at \$1 per day, and upward. Every room has hot and cold water.
C. C. COLLINS, Proprietor.

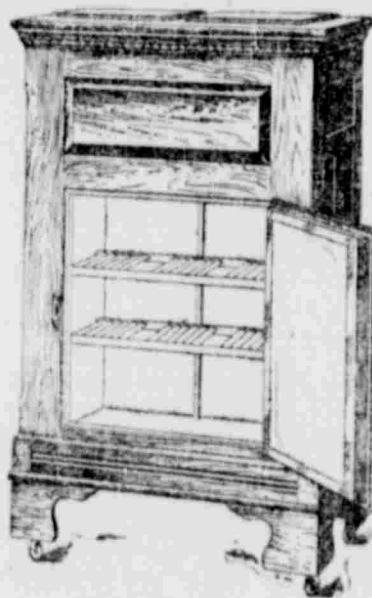
UTAH DENTAL CO.
234 Main.
DR. ZIMMERMAN, MGR.
MOST RELIABLE DENTISTS IN THE CITY.

Set of Teeth (Best Red Rubber) \$5.00
Gold Crowns, (22-k) \$5.50 to \$5.00
Bridge Work, (best) \$5.50 to \$5.00
Gold Fillings \$1.00 to \$1.50
Others \$1.00 to \$1.50
12-YEAR PROTECTIVE GUARANTEE.
Teeth Extracted Without Pain.
Open 6 p.m. to 10 p.m. Sundays, 10 to 12.
'Phone 161, 1754; Ind. 2992.

20% Off Alaska Refrigerators!

FOR ONE WEEK ONLY.

THIS IS THE CHANCE YOU HAVE BEEN WAITING FOR. Even if you had intended to put off buying one until next summer, your interests demand that you buy now.



This means you can buy the best Refrigerator made for less than inferior ones are selling for. This sale presents a double chance for economy—a refrigerator at a low price and one that operates economically.

It's easy to demonstrate the Superiority of THE ALASKA. By actual public test we have proven that it will refrigerate with less ice than any other. It is neatly and scientifically constructed and as it costs less to operate it, is by far the most economical refrigerator on the market.

20% DISCOUNT MEANS:

A \$65.00 Refrigerator for.....	\$52.00	A \$16.00 Refrigerator for.....	\$10.80
A \$50.00 Refrigerator for.....	\$40.00	A \$13.50 Refrigerator for.....	\$10.80
A \$40.00 Refrigerator for.....	\$32.00	A \$7.50 Ice Chest for.....	\$6.00
A \$35.00 Refrigerator for.....	\$28.00	A \$10.00 Ice Chest for.....	\$8.00
A \$25.00 Refrigerator for.....	\$20.00	A \$16.00 Ice Chest for.....	\$12.80
A \$20.00 Refrigerator for.....	\$16.00	A \$12.00 Ice Chest for.....	\$9.60
A \$15.00 Refrigerator for.....	\$12.00	A \$10.00 Ice Chest for.....	\$8.00
A \$10.00 Refrigerator for.....	\$8.00	A \$12.00 Ice Chest for.....	\$9.60

THESE PRICES WILL CONTINUE FOR ONE WEEK ONLY, BEGINNING MONDAY, JULY 30th, AND ENDING SATURDAY, AUGUST 4th.

H. Dinwoodey Furniture Co.