

A SERUM FOR TYPHOID FEVER.

Important Discovery Made by Celebrated Baltimore Physician.

Signal victory seems to have marked at last the warfare of modern science upon the typhoid fever scourge.

After years of patient experiment, two eminent Maryland physicians, Drs. John S. Fulton and William Royal Stokes, have discovered what the medical world has long awaited with eager expectancy—a serum that, so far as demonstrated, robs the typhoid germ of its deadly power.

Of twenty-three serious cases of fever treated with the Fulton-Stokes serum, but two patients died. Complications carried these off, although even in their cases the typhoid symptoms showed evidences of yielding.

This promises to be one of the most valuable and important discoveries in the field of medicine.

Almost unknown among savage peoples, typhoid's ravages have often been most startling amid advanced communities.

Squalor and filth promote it, but the insidious disease assails occupants of mansions as well as dwellers in hovels. It sows seeds of death thickly along the courses of polluted water supplies.

Figures collected for 1901 in the leading cities of the world show the typhoid death rate per 100,000 to have been as follows:

London, 12.1; Belfast, 12.9; St. Petersburg, 84.1; Boston, 95.4; New York, 20.6; Chicago, 30; Philadelphia, 33.6; Boston, 24.7; St. Louis, 33.1; Washington, 57.8; Baltimore, 27.2.

These figures show only a part of the ravages of typhoid. There is nothing in such mortality statistics to indicate the great number of victims who lie upon their beds for weeks many of whom recover only to fall easy victims to pulmonary or other troubles.

Typhoid's cost is not alone in lives although the toll the grim reaper takes is the most pronounced feature because it gets into municipal reports.

The many who survive can charge up in the aggregate an enormous expense account of doctor's bills, medicines, nurse hire, loss of employment, and, too frequently, a lingering and permanent illness of another sort.

It was, therefore, a crusade of more than ordinary interest and importance that Drs. Fulton and Stokes, of Baltimore, undertook.

For over ten years Dr. John C. Fulton has been secretary of the Maryland State Board of Health. He gave up a lucrative practice in order to devote himself to the duties of the office, and so well has he met requirements that political changes have never affected his status.

He has been president and secretary of the National Health Association and a recognized authority in all other national gatherings of medical men and health officials. During the last decade Dr. William Royal Stokes has been the official bacteriologist of the Baltimore City Health Department.

Several years ago Drs. Fulton and Stokes began studying the ravages of typhoid and casting about for remedial serum that should stay its course.

If vaccination had proved so successful in checking the spread of smallpox, and an antitoxin had been found to cure diphtheria, why not a remedy for the more extensive and almost equally deadly typhoid?

Princely fortunes have been spent in an effort to check the ravages of typhoid without satisfactory results; science has labored unceasingly, but in vain, to discover a serum which would alleviate the conditions which have depopulated communities and swept thousands to untimely graves.

The first unmistakable case of typhoid was recorded in 1463, and during the early history of therapeutics it was associated with the plague, and was always classed as such a visitation. The first definite history of the disease can be traced only as far back as 1840. Prior to that time it was almost impossible to separate it from the fatal typhus fever.

THE SEARCH FOR A SERUM.

It was in 1895 that Drs. Fulton and Stokes began their careful microscopic search for a curative serum.

After six years of labor, and of considerable individual expense upon their part—for they were not aided by any funds appropriated for investigation—they were able to demonstrate the results of their work.

When they felt that they had the long-sought solution of the problem within their grasp, the experimenters made careful and extensive tests before announcing their discoveries to the world. The matter was too serious to permit the possibility of mistake, and the two men valued their own reputations too highly to have their names associated with an announcement that could not be made good.

The twenty-three cases in which the serum was carefully tested were under the care of other physicians. These are now testifying to the potential value of the discovery.

In two cases where death ensued, an appreciable drop of temperature followed the injection of the serum, and for a time there was a general betterment of the typhoid symptoms. Complications, however, precluded recovery. The fact that in fifteen severe typical cases unmistakable benefits followed the use of the serum is regarded by medical men as a remarkable testimonial of its worth.

In pursuing their investigations, the two physicians found that one of the greatest difficulties arose from the nature of the disease.

It is well known that the typhoid fever bacillus is, as a rule, present

in the blood and tissues, and that the main point of attack after it has taken hold of a victim is in the tissues of the body, and the destruction of the bacilli depends on the successful interaction of the two distinct bodies.

The one body, or toxin, which destroys the bacillus is also its complement, and it exists as a ferment-like organism in the serum or cells of the human body. The other is usually the product of artificial immunity, though it, too, may be normally present in the system and is called the intermediary body.

Great difficulty lies in the production of interaction between these two in the peculiar way which scientific experiments have shown to be necessary to insure the destruction of the bacilli.

Drs. Fulton and Stokes derived their serum through a series of experiments upon hogs. In telling how they reached success, Dr. Stokes said recently:

"It is well known that man contracts typhoid fever by taking the bacillus into the stomach.

TURNED TO THE HOG.

"We found that calves and poultry could be fed on typhoid fever bacillus ad libitum without contracting the disease, and that they did not excrete typhoid fever at all. The bacillus was always killed in the upper part of the alimentary tract, and so such domestic animals and fowls were eliminated from our investigations into the cause of epidemics in rural communities.

"From the investigations of others we knew that typhoid was poisonous when injected into the blood of some animals—notably guinea pigs, rats and rabbits.

"Attempts to produce an antitoxin serum from the hog had failed, because the injection of the bacillus produced only big sores and prevented further investigations.

"We then turned toward the hog, assured that these conditions need not be feared.

"Two hogs were treated, with the result that a powerful agglutinating serum was secured. A few cases with ordinary fat hogs were treated in 1902, but we lost the hogs. It was extremely difficult for an expert veterinarian to get the serum from the animals because of the superabundance of flesh. Moderately fat hogs did not answer the purpose, so lean and lank 'razor backs' were obtained from North Carolina for later experiments.

"Our method was to first get bacilli from a virulent case of typhoid and plant them in beef tea. In such case one drop of the beef tea mixture must be of sufficient strength to kill a guinea pig. In twenty-four hours there were millions and millions of the cultures. A dose of fifteen drops of the beef tea was then injected into the tissue of the hog's abdomen.

"The dose injected into the hog's tissues was gradually increased until the animal could stand an injection of about three pints. As the result of the treatment a substance was produced in the blood serum of the animal which would destroy typhoid fever germs when mixed with the beef tea in culture tubes, even though in small quantities.

"Here, then, was the active principle of cure that we were seeking. In a majority of the typhoid cases treated, we believe that we shortened the duration of the fever and materially reduced the daily variation of the temperature. The greatest difficulty has been in not being able to produce a sufficient quantity of the serum to try in a larger number of cases. The process is slow and very tedious.

"This serum differs from the antitoxin of diphtheria. The diphtheric antitoxin simply neutralizes its powerful soluble poison which is produced by the diphtheria bacillus. The typhoid fever serum actually destroys the germ of typhoid fever.

"This can be proven by injecting into a guinea pig a small amount of the serum and then injecting it with a quantity of the typhoid bacilli seven times as great as that which would kill an ordinary guinea pig.

"These experiments," concluded Dr. Stokes, "were of such a nature as to convince us that we are on the right road to the solution of a problem which has baffled the medical world for centuries."

EVILS OF CONSTIPATION ARE

Well known, and the next best thing is to know a reliable cure. Mrs. W. Eddles, of Stony Mountain, Man., says: "Dr. Hamilton's Pills are just the thing. They go right to work at once. I use only Dr. Hamilton's Pills." Price 25c. per box.

ESSAY ON AUTOMOBILES.

(Written by a School Boy.)

Automobiles is the things the rich people began to buy when they found out that shop girls and shipping clerks could buy and ride bicycles, they went and asked the price and when they learned that it was as high as \$3000 they said to themselves, Well, that will hold the rabble for a while.

If you want to go into society you have to get an automobile & a chauffeur to run it for you, then you have to go out into the country & tell the chauffeur to give you the front seat & let you run it, & run over 2 farmers, 3 dogs & 2 little children, then leaves will tell each other at the country club that you are a 'careless driver' who have faced death a thousand times.

You can have lots of jolly parties

in ottomobiles, you can start from the Summer resort & ride clear to 5th Avenue & then a rain storm comes up so you can't go back that nite so you stay in town & the first thing you know maybe you will have a picture in the paper saying Mister So & So, named as correspondent in the sensational divorces proceedings, that is all part of the Higher Priced Life. When you see a ottomobile going past with a bunch of ladies & gentlemen you will see that the ladies are wearing veils & you think maybe it is to keep the wind off, but maybe it is to keep the public guessing who they are.

A ottomobile is a grate thing for a chappie who wants to win the undying love of a chorus girl, it is as easy to win the undying love of a chorus girl as it is to win all the munny in a roulette wheel bank, the chappie meets her at a dinner party & he says, What do you say to a jolly spin tomorrow in my new 30 horse power touring car, & she says By all means, so the next day he takes her for a long ride & buys her lots of wine & dinner, then she says I must get back to rehearsal, & after the show when he waits for her she isn't there, she has gone out to dinner with newspaper man that can talk about something besides gasoline, she doesn't care if the chappie is soar because New York is full of other chappies & they all have touring cars & trusting harts.

Sum men that own ottomobiles like to race with each other, this makes it hard for the folks that are driving horses or walking along the road, because when there is a chance to brake a record the shufflers in the ottomobiles don't like to lose time dodging the common people, I never herd of but one man that was sorry he didn't dodge a fellow in the road, he ran over the fellow & the fellow got tangled up in the gearing of the mashen & stopped it, & the race was lost.

I heard a society man talking the other day to a ottomobile dealer, he said I wish you fellows wudent sell ottomobiles to prize fites & gamblers, it will make them common, those men are not in our set. Then the dealer laffed & sed No, they are not in yure set, they buy better mashens & pay cash for them, & when they go out riding they throw munny to the kids instead of running over them, thus creating a sentiment in faiver of the mashen. I thought that was a pritty good cum back.

I guess when the Angel Gabriel cums & toots his horn all the society folks that have ottos will too too three otto horns back at him, but Gabriel will shaik his hed & say No, i doant want you, git off the line!

INTERESTING MEMOIRS.

(Toronto News.)

Out of his wealth of experience and knowledge of early Ontario politics and the political history of Confederation days, Mr. Justice McMahon, of the Supreme Court, proposes to write a volume of memoirs which promises to be the most interesting contribution yet made to the scant literature of our Province. There are many men living who remember those days and some who took an active part in the making of their history, but there are few who were so intimately connected with the stirring events as Mr. Justice McMahon, and none who has the same mass of material and notes and papers carefully collected, which place him in possession of all the important facts with absolute accuracy.

Judge McMahon was acquainted with most of the leading men in the political field of Confederation days, and was intimately connected with some of them, notably the late Thomas D'Arcy McGee, of whom he has the most pleasant recollection.

As the Judge took an active part in the political contests in most of the Western constituencies from 1867 when the "no party" cry triumphed at the polls, down to 1893, and as he during that time had come in contact with the leading politicians of the day, a narrative of what then took place will be not only entertaining but of value as political history.

In 1877 Judge McMahon supported Sandfield Macdonald, but in 1871 he opposed his government with such vigor that the Hon. David Mills stated he considered that Sandfield's defeat was largely due to Judge McMahon's efforts.

In 1874 Judge McMahon was a candidate in London for the House of Commons, and in 1878 ran against the late Rufus Stephenson, M. P., in Kent. He remarked, however, that on principle he should have refused contesting Kent, and said that he would indicate in the reminiscences what the principle was he considered had been violated by his candidature.

SON'S DEFENCE FUND GONE.

Mother Loses Money she Begged to Save Boy's Life.

Richmond, Ill., July 20.—Five hundred dollars, which Mrs. Knapp had raised through hard effort for the defence of her son, John Knapp, who is awaiting trial here for murder, has been lost in the wreck of the Commercial Bank at Hagerstown Ind. Knapp is accused of murdering Lennie Geisler, Marshal of Hagerstown.

Knapp is in jail here and his mother had directed her energies toward procuring money to employ attorneys.

Shall collected \$500 among relatives and placed the money in the Commercial Bank with John Bookman, the cashier, who killed himself after looting the bank.

"You sign this deed of your own free will, do you, madam?" asked the lawyer.

"What do you mean by that?" demanded the large, red-faced woman.

"I mean there has been no compulsion on the part of your husband, has there?" she ejaculated, turning to look at the meek little man sitting behind her. "I'd like to see him try to compulse me."

MAILS CLOSING.

6 a.m.—For St. John, etc., St. Stephen and Charlotte Co., Carleton, Victoria and Madawaska Counties, and United States.

6.30 a.m.—Woodstock and Gibson Branch Stations.

WAY MAILS.—East Side St. John River.

6.30 a.m.—For Keswick Ridge, Southampton, etc., Mondays and Thursdays.

West Side St. John River.

6.30 a.m.—For Springhill, Kingsclear, Prince William, etc. Mondays, Wednesdays and Fridays.

7.30 a.m.—St. John River via Steamer.—For Oromocto, Sheffield, Gagetown, etc.

8.45 a.m.—St. John, etc. C. P. Railway Stations. East: Nova Scotia and P. E. Island.

10 a.m.—For St. Marys Ferry, Gibsan and Marysville.

WAY MAILS.

2 p.m.—For Nashwaakasis and St. Marys Ferry, daily. Nasownorth, New Maryland, Hanwell, Lower St. Marys and Royal Road. Wednesdays and Saturdays.

3.30 p.m.—For Gibson, Marysville, Boilestown, Donkton, Blackville, etc. Chatham and I. C. Railway Stations north and south.

4.30 p.m.—For St. Stephen, Woodstock, United States, Montreal, Toronto, Ottawa and North West Provinces.

4.15 p.m.—For St. John, etc., Nova Scotia and P. E. Island.

4.15 p.m.—British mail via New York. Mondays and Thursdays.

MAILS RECEIVED.

9.10 a.m.—From St. John, etc., and Nova Scotia.

From Hamtown, Royal Road, etc.

10.30 a.m.—From Nasownorth and New Maryland. Wednesdays and Saturdays.

11.30 a.m.—From Montreal, Ottawa, North West Provinces, etc., and United States.

12.15 p.m.—From I. C. Railway Stations, North Shore and Quebec.

St. John River via Steamer.

5 p.m.—From Oromocto, Sheffield, Gagetown, etc.

9.15 p.m.—From Woodstock and Gibson Branch Stations.

8.45 p.m.—From Nova Scotia and P. E. Island.

WAY MAILS.

6 p.m.—West Side River St. John.—From Meductic and Way Offices. Tuesdays, Thursdays and Saturdays.

9.15 p.m.—East Side River St. John.—From Woodstock and Way Offices. Tuesdays and Fridays.

5.30 p.m.—From Lower St. Marys. Wednesdays and Saturdays.

4.30 p.m.—From Nashwaakasis and St. Marys Ferry.

7.30 p.m.—From Gibson and Marysville.

10.50 p.m.—From United States. Letters for Registration should be posted half an hour previously.

THE ROUND ROBIN.

Its Origin, It is Said, Can Be Traced Back to Ancient Greece.

According to British naval documents of the years 1638 and 1659, it was the custom of seamen of that day to use the round robin as a safe and effective means of bringing their grievances before the authorities. A similar practice existed in France, but the alleged origin of the term "round robin" from round ruban, a circular band used in the French petitions, is probably fallacious.

The term existed in England long before, with wholly different meaning. Thus in Devonshire a "round robin" was a small round pancake, and the sacramental wafer was called a "round robin" by Latimer, 1536.

Dr. Timbs says that the idea of the round robin has been traced back to a Greek conspiracy against the tyranny of the Pisistratidae. The Romans had a similar custom of writing the names of their guests or friends in a circle when anxious not to indicate any individual preferences.—London Standard.

COUGH NO MORE

SPRUCINE

THE REMEDY OF THE DAY

A definite preparation of Spruce Gum, Wild Cherry, Hoarhound and Tar.

Scientifically combined in the form of agreeable and palatable Syrup.

One of the most reliable preparations yet introduced to the public for the immediate Relief and Cure of Coughs, Colds, Bronchitis, Hoarseness, Whooping Cough, Croup, Asthma, and all diseases of the Throat and Lungs.

Taken with Cod Liver Oil in the first stages of Consumption, it will be found invaluable.

For sale everywhere. Price 25 cts. or by mail on receipt of price.

Sole proprietors, THE WINGATE CHEMICAL CO. LIMITED, Montreal, Canada.

MCGALE'S BUTTERNUT PILLS FOR YOUR LIVER AND BOWELS.

G. T. WHELPLEY.

SEEDS

Wholesale and Retail.

Timothy Seeds,

Clover Seeds,

Garden Seeds,

Just stored one carload

FEED.

Victor Feed, Banner Feed and Cracked Corn and Oats.

Ontario Heavy White Oats, Carleton County Oats.

G. T. WHELPLEY

310 Queen St. E. ton.

..NEW..

Lace Curtains

New Roller Blinds from 25c. to 50c. each.

Window Poles with wood trimmings in oak, cherry and walnut at 25c.

Floor Oilcloths, all widths at 25c. per yd.

DEVERBROS.

JOHN G. ADAMS,

The Leading Undertaker.

FIRST-CLASS EQUIPMENT. LOW RATES.

Down Town, Next above Queen Hotel. 'Phone 26

A Big Flame, A Bright Blaze,

A Quick Fire,

MADE BY THAT POPULAR MATCH

Eddy's "Silent" Parlor

ALL GROCERS HANDLE THEM.

SCHOFIELD BROS.,

Selling Agents, - - - St. John, N. B.

A Wedding in the family

THEN GET YOUR

INVITATIONS

PRINTED AT

THE HERALD OFFICE.

At Home Cards,

Dance Programmes,

Visiting Cards, etc., etc.

are specialties with us. Come to

The Herald Office.