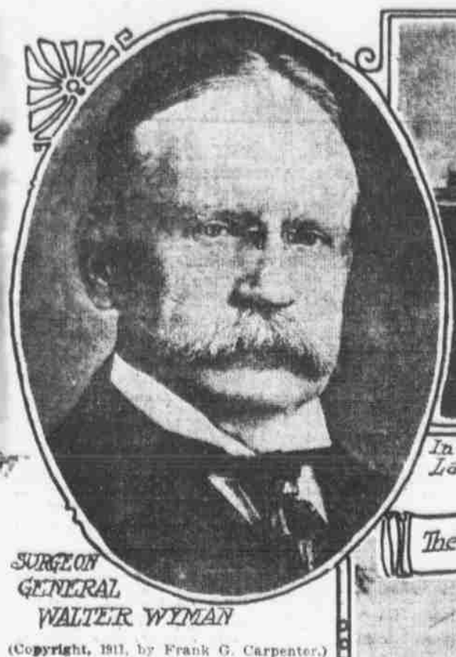
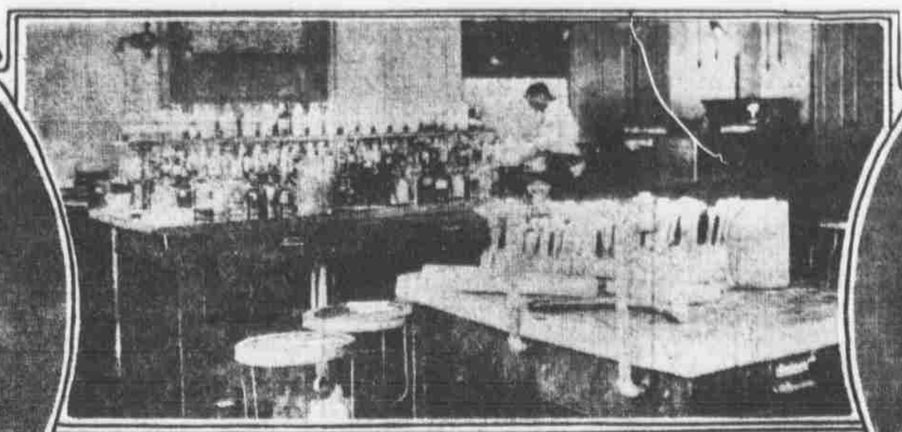
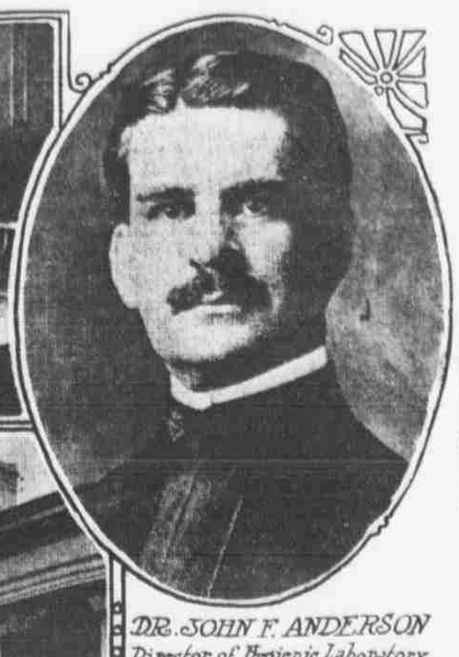
How Government Conserves the Health of Its People



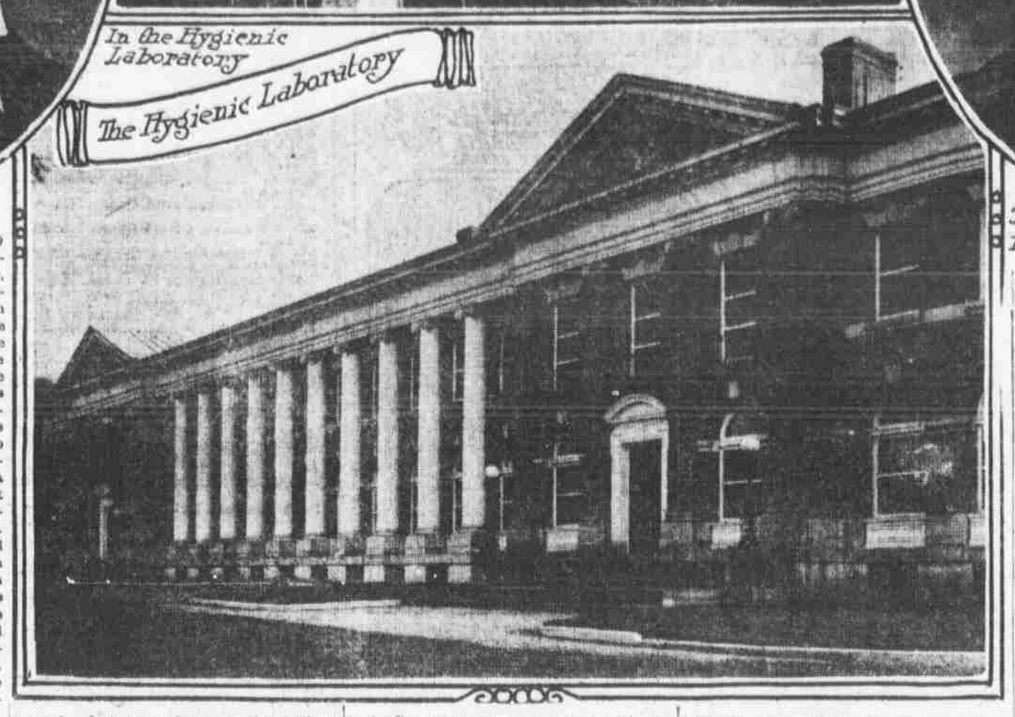
SURGEON GENERAL WALTER WYMAN



In the Hygienic Laboratory



DR. JOHN F. ANDERSON
Director of Hygienic Laboratory



The Hygienic Laboratory

(Copyright, 1911, by Frank G. Carpenter.)

WASHINGTON, Nov. 19.—Monkeys which have the measles, guinea pigs with the diphtheria and rabbits with typhoid fever—these are some of the things to be seen in the great experiment station which Uncle Same has established on the banks of the Potomac to keep disease away from his children. It is now ten years since a national bureau of public health was founded. The institution has proven to be of enormous value, and there is a possibility that it will some day be made a cabinet department with a secretary at its head. As it is now the bureau is controlled by the secretary of the treasury. Its superintendent is Surgeon General Walter Wyman, whose life has been spent in fighting the great diseases which affect the nation. It is to him that we owe the movement now being made against tuberculosis, pellagra and typhoid fever, to the government regulations as to the sale of viruses and toxins, and also to the establishment of the hygienic laboratory whose work I describe further on in this letter.

The Government as a Doctor.

I doubt whether there is in any part of the world an institution of medical research more important than that which the government has here at Washington. I have visited the Wellcome laboratories at Kahrtum, in the Sudan. They are devoted to tropical diseases—to the black water fever, the sleeping sickness and other horrors of the upper Nile and middle Africa. There is a laboratory of medical research in London and there are others in Paris, Berlin and Vienna. The most of these are private institutions carried on with private capital. Our government institution, known as the hygienic laboratory, is backed by the nation, and it gets its appropriations from congress. It is connected with the national bureau of health, and it has so grown that it is now one of the most important of the government undertakings.

The hygienic laboratory consist of several large buildings which are devoted to research work. It contains chemical and other laboratories, specially fitted up, rooms in which germs and microbes of all kinds are reared, rooms for the testing of diseases through a study of animals which have been infected with them and all the machinery for modern medical investigation. It would take many columns to give a record of the various kinds of work now going on and a description of what has already been accomplished. In this letter I can mention only a few of the problems which are now being studied and some of the methods by which the scientists arrive at their conclusions.

Uncle Sam's Medical Zoo.

One of the interesting features of the laboratory is its study of human diseases through animals of one kind or other. Indeed, in one respect the institution might be called "Uncle Sam's Medical Zoo," for it has colonies of animals which the government keeps on hand in order that it may investigate through them the diseases with which man is afflicted. These animals are inoculated with human blood taken from persons who have certain diseases. They thus catch the diseases and through them the diseases are studied and investigated. The sick animal is given drug after drug in order that the right one for this special ailment may be discovered. Such animals are carefully watched, their symptoms are noted, and, if necessary, they are killed and cut to pieces to ascertain the origin and course of the disease and how it may be controlled as it affects man.

Among the animals used for this purpose are guinea pigs, rabbits, mice and monkeys. We are said to be descended from the monkeys, and the monkey is the nearest to man in its make-up. It is only lately that it has been used in such investigations, but it is proving to be of enormous value. At present the government has on hand about three score of such monkeys, and it wants more. The monkeys used come from India. They are of a species known as the Rhesus, which is said to be, of all monkeys, the best for this purpose. The Rhesus monkeys are little fellows not much bigger than a good-sized fox terrier, and are quite as cunning, as mischievous and as interesting as any monkey you will see in the zoo. They are kept in cages in a monkey house and are taken out from time to time as they are needed in the investigation.

In the Guinea Pig Pens.

In another part of this same house is what I might call the guinea pig stockyards. This is composed of many little pens occupied by guinea pigs. A male and four females are allotted to each pen. They breed rapidly, and there are enough of them to keep up the 6,000 or more of these little animals which the laboratory consumes every year.

In another place there are rabbits some of the softest gray and others as white as the ermine cloak of a princess. There are also dainty mice of the color of snow, which scamper and play about the little houses in which they are penned. Each kind of animal has its own place in the research work, and many of these which have been kept here have been of service in the remarkable discoveries made by this laboratory as to human diseases. All of these animals are carefully treated. They have well ventilated houses, heated by steam, and the best of food that can be obtained. During my stay I saw them feeding the monkeys. The little animals were given pananas, bread, nuts and such other things as they specially like. The guinea pigs are kept fat on guinea pig dainties and the rabbits rejoice in green lettuce and cabbage. The animals are kept in perfect health and as far as possible in good spirits in order that the disease given to them may be directly diagnosed and studied.

Monkeys with Measles.

Among the special human ills which Uncle Sam is now investigating is measles. He is doing this through monkeys which have been given the measles. Last June the British medical bureau stated that John Howard McFadden, the cotton magnate, who has given much money for the investigation of cancer, is about to turn his attention to the measles. It stated that the research would be undertaken in London, and I am told that an appropriation of perhaps $500,000 is to be used for this investigation. In the meantime our government scientists, by means of the monkeys, have made the discoveries which the McFadden Institute proposed to make, and that at no additional cost to Uncle Sam.

During my visit to the hygenic laboratory today I had a long chat with Dr. John F. Anderson, the director, who in connection with Dr. Joseph Goldberger, his assistant, has been carrying on the measles investigations. Dr. Anderson is known for his remarkable success in research work. He has done much in typhoid fever, pellagra and infantile paralysis. He has made many discoveries as to the effect of toxins and anti-toxins, and as to the bacteria found in milk and the bacilli which cause consumption.

He tells me that it was some time before they were able to give the measles to the monkeys. The experiment had been attempted in England and elsewhere, but had failed. At our national laboratory, however, the blood or serum used to inoculate the monkeys was taken from the human patient at just the time that the rash was coming out or was about to come out. It carried the disease, and from this and other experiments we now know just when measles are infectious.

The first monkeys were inoculated June 8 of last year. Ten days later they began to be feverish, and an eruption came out upon them, just as it does on a child. The little animals developed all the symptoms of human measles and the disease acted the same way. Now when the disease was just at the right point certain of these monkeys were killed and their blood was used to inoculate fresh monkeys. The monkeys so inoculated took the measles and a third set of monkeys inoculated with their blood took the measles likewise.

Dangers to School Children.

From these and other cases Dr. Anderson finds that the period of infectivity from the measles, as far as the monkey is concerned, begins about the fourth day after he catches the disease, and that it disappears as soon as the eruption has passed away and the temperature of the patient becomes normal. It must be the same with humans, but as it is now, when a child has the measles it is kept out of school for something like three weeks. These investigations show that twelve or fifteen days' time is all that is necessary, and it is probable that a less period would be safe. The disease is communicated from man to man, or, rather, from child to child, for it is to a large extent a child's disease, by means of the secretions which come from the nose and mouth. Certain monkeys which were inoculated with a fluid mixed with these secretions took the measles, and it is probable that the contagion comes largely from such secretions. The saliva and other secretions are mixed with the dust of the street and thus taken into the system. For this reason children with the measles should be warned against expectoration.

Studies of Infantile Paralysis.

Among others of the recent investigation of the hygenic laboratory is infantile paralysis. This dread disease is like the measles in that it usually attacks little children. It is a disease of the spine, which paralyzes the child either in part or in certain of its members, and which often causes death. In Sweden out of 592 cases of children under 11, seventy-one died and in Massachusetts in 628 cases the State Board of Health found that 16 per cent of the babies of less than one year failed to recover. Among the others, who got partially well, four had one thigh and leg paralyzed, eight had legs paralyzed and a number had a leg, arm and other members made dead, as it were.

Infantile paralysis is not a new disease. Evidences of it have been found in an Egyptian mummy which is almost 5,000 years old, and it has long existed in Europe. There have been a number of outbreaks of it in various parts of the United States within the last few years. Massachusetts had one in 1907, 1908, 1909 and 1910, Michigan one in 1907 and 1908. Pennsylvania one in 1910, and Oregon, South Dakota and Virginia were afflicted with it during the same year. It was in 1910 that it broke out here at Washington, resulting in 536 cases and about sixteen deaths. The youngest case was only 4 months old and the oldest 64 years.

In studying this disease there have been many attempts to give it to guinea pigs, rabbits, horses, sheep, dogs, cats, chickens, ducks and pigs. They have all failed, but it has now been discovered that it can be given to the monkey, and also that a monkey which has had the disease once cannot be given the disease again. It has been found that a serum from the diseased monkeys will arrest the progress of the disease after it has developed, and monkeys have been vaccinated with this and thus made immune. It may be that this vaccination will some day be extended to children.

Infantile paralysis is found to come from a germ, but this germ is so small that it will go through a stone filter. The scientists have macerated the spinal cord of a monkey having the disease and have passed the water containing this through such a filter. A drop of the water which came from the filter was then injected into another monkey, and it got infantile paralysis.

It is also found that the secretions from the noses of the infected monkeys are infectious and it is believed all the secreitons of the nose and mouth are likewise so. This indicates that the disease may be transmitted from one person to another by direct contact and that it is contagious.

Pellagra Comes from Italy.

Another terrible disease which is causing much excitement in certain sections of the United States just now is pellagra. This, in the words of Surgeon General Wyman, is "a veritable scourge in parts of Europe." It is found in Florence, Italy, and Roumania, and it occurs also in Spain and Upper Egypt. In certain parts of Italy as many as 50 per cent of the people have the disease, and 10 per cent of these are mentally affected.

Pellagra has only recently come to America. It first broke out in the southern states, but it is now found as far north as Philadelphia. It is estimated that we have something like 25,000 cases of it. Once caught it lasts a long time.

During the present year the laboratory has been attempting to give monkeys pellagra. It has taken the blood and spinal fluid of pellagra patients and injected them into the blood of these little animals. Dr. Lavinder has done the same, but so far their experiments have not been successful, although valuable information has been obtained.

Typhoid Mary and Mrs. X.

Some of the most interesting work of Uncle Sam's hygienic laboratory has related to typhoid fever. The corps of doctors here are ready to respond to any call from a typhoid epidemic provided the state or city where the typhoid is makes the call. At such times they go to the site of the epidemic and investigate its origin. Dr. Anderson tells me that typhoid can only come from typhoid bacillus, and without this is present it cannot exict. One might eat bad fish or bad meat which did not contain this bacillus and in such cases he could not have typhoid fever. However, this little being exists in most forms of sewage, it multiplies at an enormous rate, and it goes forth on its career of destruction like an army with banners. It is not true that it is common in oysters, although it sometimes comes from such shell fish as have been taken from the salt water and laid in brackish water to make them swell up and look large.

The great danger of infection from typhoid fever lies entirely in that which comes from the patient when he is in certain stages of the disease, and as a rule this danger disappears as soon as the man recovers. It has been found, however, that there are certain human beings who are bacillus carriers. They are loaded with typhoid and other diseases; but the disease has no effect upon them and they keep in health. By disease I mean that they have in them multitudes of the bacilli which cause the disease. One case of this kind was that of a cook known as "Typhoid Mary." She went from place to place and wherever she worked the people got the typhoid fever. There were several dozen of such cases, all caused by this healthy Mary.

Similar instances have been discovered by the Germans, and it is now found that there are certain people who are carrying about the cholera bacillus in the same way. For this reason all the immigrants who are now coming from the Mediterranean are carefully examined, even to the making of a bacteriological analysis. A number of cholera carriers have been already discovered and sent back to Europe.

Typhoid from Dairy Milk.

And this brings me to one of these chronic bacillus carriers who once spread a blanket of typhoid fever over a large part of West Washington. The epidemic occurred in the fall of 1908, and in less than three weeks the District of Columbia had 135 cases of typhoid. Of these fifty-four were in Georgetown, and upon investigation it was learned that all had been drinking milk supplied by two dairymen from the edge of the city. The dairies were investigated and found to be clean. It was learned, however, that each had been sending out milk bought from a woman who had a farm nearby. This woman I shall call Mrs. X. The milk was traced to the consumers, and it was found that in nearly every case it had given them typhoid fever. The history of Mrs. X. was inquired into and it was discovered that she had had typhoid fever eighteen years previously. She was bacteriologically examined and it was shown that she still had typhoid bacilli in her. She was loaded with them and was giving them out all the time. When she washed the pans or handled the milk she unknowingly mixed some of these death-dealing bacilli with the products of her cows, and in due time they were taken into the stomachs of the consumer.

In short, fifty-four cases of typhoid were directly traced to her. I say that had the dairymen who bought this milk pasteurized it before delivering it to their customers this treatment would have destroyed the bacilli and the outbreak of typhoid could not have occurred.

FRANK G. CARPENTER.

Feared Consumption

Entirely Cured. Interesting Case.

W. H. Burtch, Binghamn, Pa., writes: "I was in a terribly run-down condition, my lungs were weak and sore, and I had a dull, heavy pain between the shoulders. I lost flesh very rapidly, and feared I was going into consumption. After taking four bottles of Hood's Sarsaparilla I was entirely cured and never felt better."

In cases where a strengthening, tonic, appetite-giving medicine is needed, Hood's Sarsaparilla has effected thousands of cures.

Get it today in usual liquid form or chocolated tablets called **Sarsatabs.**

The Doctor's Answers On Health and Beauty Questions

By DR. THEODORE BECK.

The questions answered below are general in character; the symptoms or diseases are given and the answers will apply to any case of similar nature.

Those wishing further advice free, may address Dr. Theodore Beck, College Bldg., College-Ellwood Sts., Dayton, Ohio, enclosing self-addressed, stamped envelope for reply. Full name and address must be given, but initials or fictitious name will be used in my answers. The prescriptions can be filled at any well-stocked drug store. Any druggist can order of wholesaler.

Myriam—You are afflicted with anemia if you are thin, colorless, languishing with listless eyes and an absence of ambition and energy enough to do anything. You want to gain weight, pink cheeks, red lips and vigorous health. To obtain this desirable condition use the following treatment and you will soon be plump and healthy: Compound syrup hypophosphites 4 ozs., tincture cadomene compound 1 oz., and compound essence cardiol 1 oz. Mix, shake the bottle well and take a teaspoonful after meals if the appetite is not good, or before meals if it is. After the first week gradually increase the dose to two teaspoonfuls. Also take 3-grain hypo-nuclane tablets to increase the weight, as per directions accompanying carton.

S. T. V.—The symptoms of dyspepsia are: A heavy feeling in stomach after eating, a constant gnawing as of hunger, loss of appetite, belching, heartburn, gas, palpitation of heart, shortness of breath, headache, pains in chest and shoulders, vomiting, weakness and nervousness. There are several good prescriptions for chronic dyspepsia and indigestion of an annoying character, but I have had better success with a scientific treatment known as tripeptine tablets than anything else; tripeptine treats the stomach and digestive tract to bring about a cure, and not merely to relieve as most advertised "dyspepsia tablets" containing pepsin do. Try the tripeptine tablets several weeks and let me hear from you again.

(2) The best treatment for oily or greasy hair, dandruff and itching scalp, falling hair, dead and split-end hair, etc., is plain yellow mineral packed in 4-ounce jars and sold by any large retail drug store. This cures dandruff with three or four applications. Directions accompany the jar. This is far superior to the sage tea you have tried.

Mrs. M.—You need not hesitate to use pain-away pills for headache and neuralgia. I frequently prescribe them as harmless and non-secret character.

Hans:—If you want a cheap and popular remedy for constipation, I can recommend cascaroval pills as non-secret and very pleasantly effective.

Mrs. A. G.—Thank you for your kind words. Am pleased to learn that my prescription of ichthyol for your hair and scalp proved so satisfactory. Being a sensible parent you should never punish a child for chronic bed-wetting, as the trouble is due to a nervous disease of the sphincter muscles which control urination. Obtain one ounce of compound fluid balmwort, give 5 to 10 drops in water at noon, 4 to 8 times daily and your child will soon be cured. If he is constipated, have this filled: aromatic fluid cascara 1 oz., compound essence cardoil 1 oz., syrup aromatic rhubarb 4 ozs. Mix. Dose, ½ to 1 teaspoonful three times daily. Continue treatment several months if necessary.

Mrs. Moore—The persistent and regular use of 3-grain hypo-nuclane tablets will after the first few weeks, increase the weight 1 to 3 pounds a week while they improve the blood so that you may have pink cheeks, red lips and sparkling eyes, the same as your more fortunate friends. These hypo-nuclane tablets are useful in case of indigestion, nervousness, sleeplessness, etc. Directions accompany each sealed package.

Relief:—For the relief and cure of tired, swollen, aching, sweaty and calloused feet, use a teaspoonful of vilane powder and tablespoonful of salt to a gallon of hot water. Immerse the feet from 10 to 15 minutes every night and morning. This gives a grand feeling of relief, and soon enables one to be on their feet all day.

Mr. S. W.—A convalescent tonic is needed in your case since you have never regained strength and nervous force after arising from the sick bed. Weakness after arising, too free perspiration, catching cold with the least exposure, irregular appetite, blues and general all-gone feeling are some of your symptoms. The following is a tonic unsurpassed for such conditions and may be used by man, woman or child with astonishing benefits: Syrup hypophosphites compound 5 ozs., tincture cadomene compound 1 oz. (not cardamom). Mix, shake well and take a teaspoonful before or after meals and at bedtime. If your weight is below normal, also take 3 grain hypo-nuclane tablets.

Mrs. N. A.—Your headache is caused by the bad case of nasal or head catarrh. Anyone can cure catarrh by using a simple nostril wash daily consisting of a half teaspoonful of antiseptic vilane powder mixed with a pint of lukewarm water. Snuff this mixture into the nostrils and gargle the throat until all lumps and accumulations of catarrhal matter are removed. This enables you to breathe freely, stops hawking, spitting, etc. Get a 2-ounce package of vilane powder. Also use an ointment made by mixing a level teaspoonful of vilane powder with 1 oz. of lard or vaseline. Apply twice daily to the nostrils. Take 2-grain sulphur tablets to purify the blood.

Malaria.—The symptoms you describe indicate malarial conditions and a serious inactivity of the liver and bowels, drowsiness, languor, weakness, coated tongue, inflamed eyes, yellow spots on the skin, dry and itching skin, nervousness, melancholia, etc. The case has become chronic but this prescription will correct and make you well: Fluid extract mandrake 2 drams, compound essence cardial 1 oz., aromatic fluid cascara 1 oz., aromatic syrup rhubarb 4 ozs. Mix and take from ½ to 1 teaspoonful 3 to 4 times daily. Keep up from 6 to 8 weeks and write me again.

Those wishing further advice, free, may address Dr. Theodore Beck, College Bldg., College-Ellwood Sts., Dayton, Ohio, enclosing self-addressed, stamped envelope for reply. Full name and address must be given, but initials or fictitious name will be used in my answers. The prescription can be filled at any well-stocked drug store. Any druggist can order of wholesaler.

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Instant Relief if You'll Write Us a Postal—Do That Now FREE

At All Druggists in 25c and 50c Sanitary Tubes, or Sample FREE if You Write Us

GLADLY we will send you a liberal sample of Kondon's Catarrhal Jelly, **Free,** postage paid, if you'll write us a postal.—Enough for several days' treatment.—Enough to prove to you conclusively that this splendid, honest remedy is the cleanest, purest, pleasantest, safest, most soothing and healing method for the treatment of these diseases.

—Kondon's Catarrhal Jelly is soothingly applied directly on raw surfaces.

—Reduces the thickened membranes, stops abnormal discharges, clears the nasal passages for easy, natural breathing and permits the air to pass through the lungs over healthy surfaces.

—That is the logical way to cure catarrh.

the Head, Catarrh of the Stomach, or any complication resulting from chronic nasal catarrh.

—The blessed relief that even the free sample will bring you will encourage you to continue its use until a complete cure is effected.

—You cannot afford to neglect nasal catarrh even in its earliest stages. It will not get better of itself. Neglect of cold in the head opens the way for the attack of the catarrh germs.

—Over 11,000,000 packages of this wonderful remedy have been sold in 16 years. Thousands have testified to its merits in unsolicited letters which we should be glad to show you.

—Remember, that Kondon's Catarrhal Jelly is sold by over 35,000 druggists in the United States—but if yours does not have it, send to us for 25c or 50c tube (stamps or coin), and we will mail at once, postpaid. The 50c size contains three times as much as the 25c size.

Ask Your Physician or Druggist

—You would not apply salt water to a wound—nor spray it with a violent medicine which would burn, itch and irritate the raw places.

—For the same reason you should stop the use of sprays, snuffs, douches and atomizers for catarrh. The delicate lining of the nasal passages is raw, inflamed—sore from the action of the catarrh germs.

—Kondon's Catarrhal Jelly is soothing, healing, pleasant and cooling. Apply it once and you will have instant relief.

Continued use, three times a day, will effect a permanent, safe and speedy cure of Catarrh, Catarrhal Deafness, Hay Fever, Asthma, Cold in

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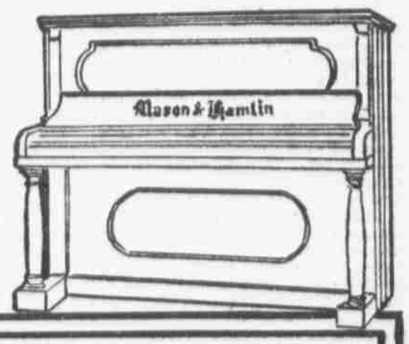

The Mason & Hamlin is not only America's greatest piano—it also is the world's greatest piano. You can hunt every country on the globe and you will not find another instrument that will equal the Mason & Hamlin in richness of tone quality; in durability of tonal quality and in number of supreme qualities. The greatest players use this instrument because it brings out, with greatest telling effect, every note and every sound desired. It obeys the very touch of the world's master piano players and co-operates to give the wonderful playing that the master pianists seek.

You can see the Mason & Hamlin at this store, and play it or hear it played. You do not need to buy; just come for a visit.

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