

Saratoga : its mineral waters, and their use in prevention and eradicating disease, and as a refreshing beverage / by C. C. Dawson.

Contributors

Dawson, Charles C. 1833-
Francis A. Countway Library of Medicine

Publication/Creation

New York : Russell Brothers, 1874.

Persistent URL

<https://wellcomecollection.org/works/m5757arq>

License and attribution

This material has been provided by This material has been provided by the Francis A. Countway Library of Medicine, through the Medical Heritage Library. The original may be consulted at the Francis A. Countway Library of Medicine, Harvard Medical School. where the originals may be consulted. This work has been identified as being free of known restrictions under copyright law, including all related and neighbouring rights and is being made available under the Creative Commons, Public Domain Mark.

You can copy, modify, distribute and perform the work, even for commercial purposes, without asking permission.



Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
<https://wellcomecollection.org>



Box, No.

ESSEX INSTITUTE.

PRESENTED BY

L. C. Dawson

CHAPTER V.

OF THE LIBRARY.

The Library Committee shall divide the books and other articles belonging to the Library into three classes, namely: (a) those which are not to be removed from the building; (b) those which may be taken from the halls only by written permission of three members of the committee, who shall take a receipt for the same and be responsible for their safe return; (c) those which may circulate under the following rules.

Members shall be entitled to take from the library one folio, or two quarto volumes, or four volumes of any lesser fold, with the plates belonging to the same, upon having them recorded by the Librarian, or Assistant Librarian, and promising to make good any damage they sustain, while in their possession, and to replace the same if lost, or pay the sum fixed by the Library Committee.

No person shall lend any book belonging to the Institute, excepting to a member, under a penalty of one dollar for every such offence.

The Library Committee may allow members to take more than the allotted number of books upon a written application, and may also permit other persons than members to use the Library, under such conditions as they may impose.

No person shall detain any book longer than four weeks from the time of its being taken from the Library, if notified that the same is wanted by another member, under a penalty of five cents per day, and no volume shall be retained longer than three months at one time under the same penalty.

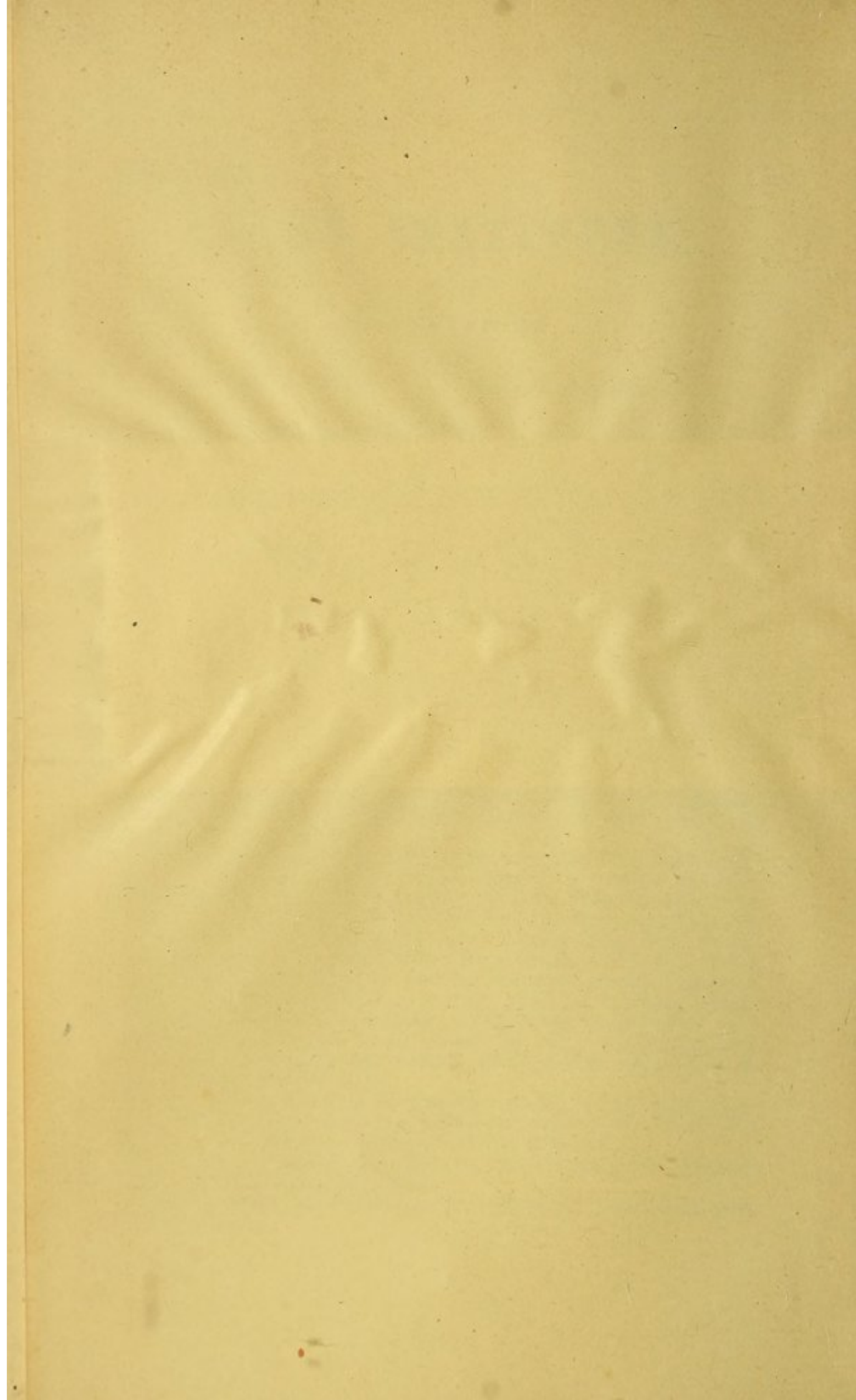
The Librarian shall have power by order of the Library Committee to call in any volume after it has been retained by a member for ten days.

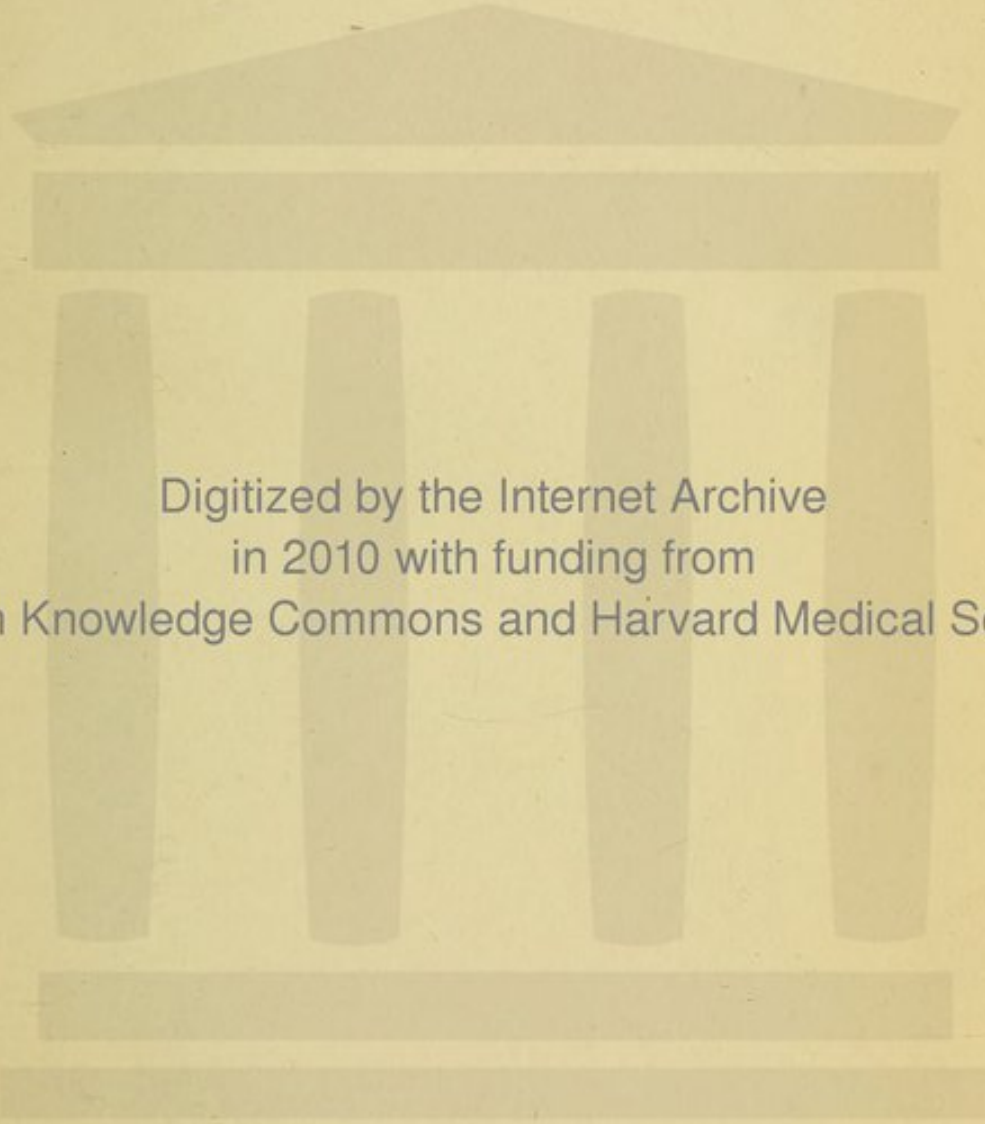
On or before the first Wednesday in May, all books shall be returned to the Library, and a penalty of five cents per day shall be imposed for each volume detained.

Labels designating the class to which each book belongs shall be placed upon its cover.

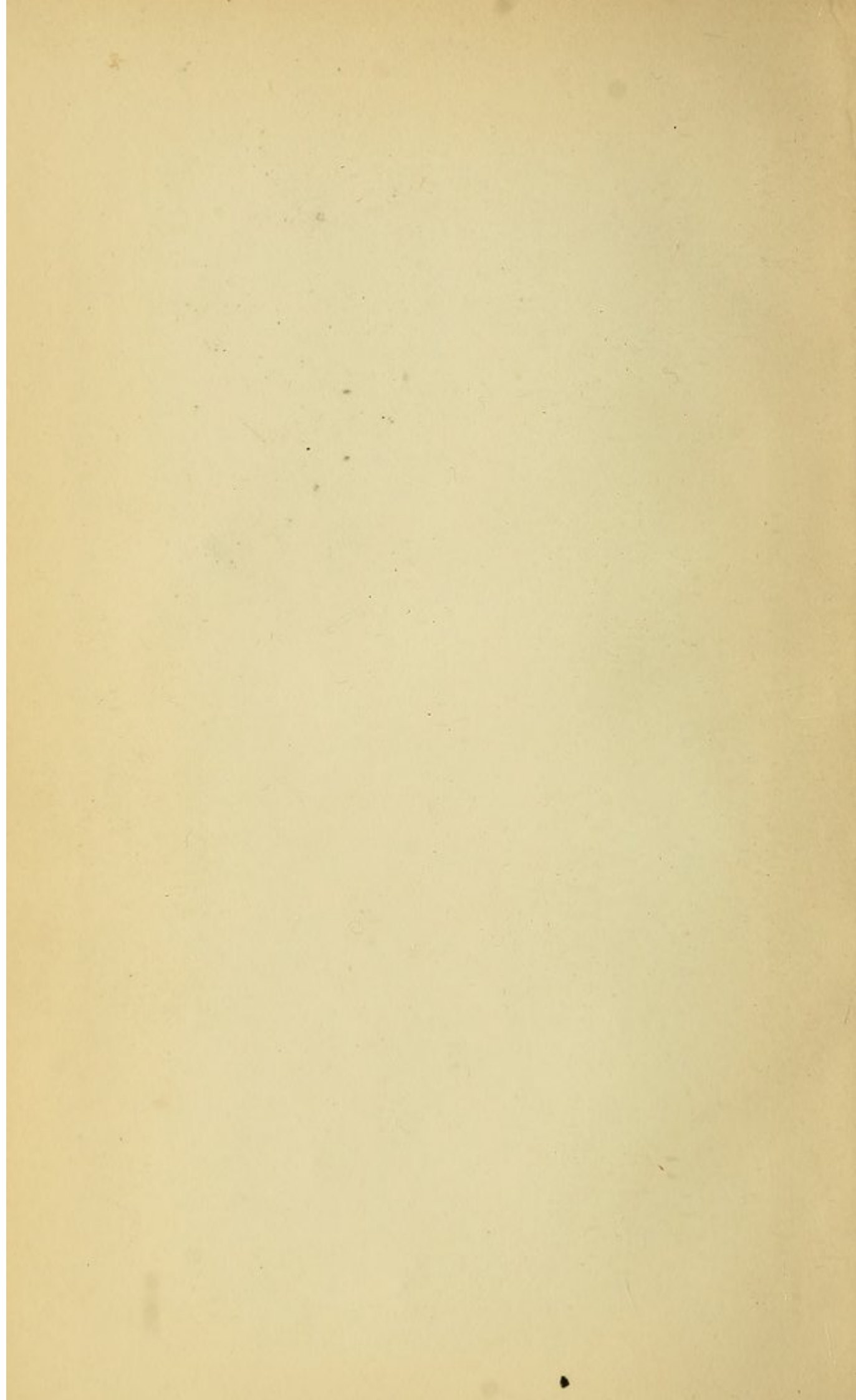
No book shall be allowed to circulate until one month after its reception.

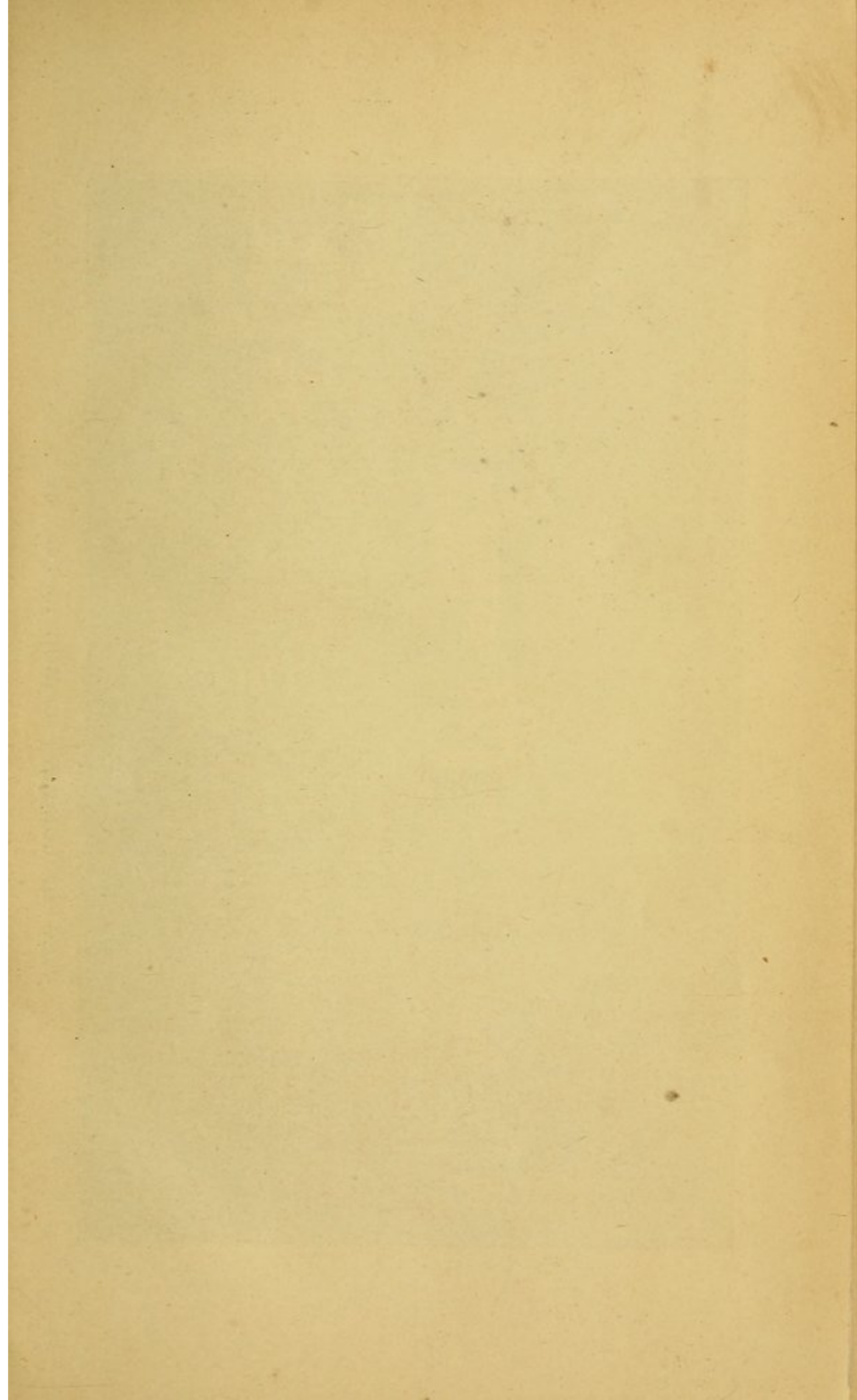
BOSTON MEDICAL LIBRARY
in the Francis A. Countway
Library of Medicine ~ *Boston*

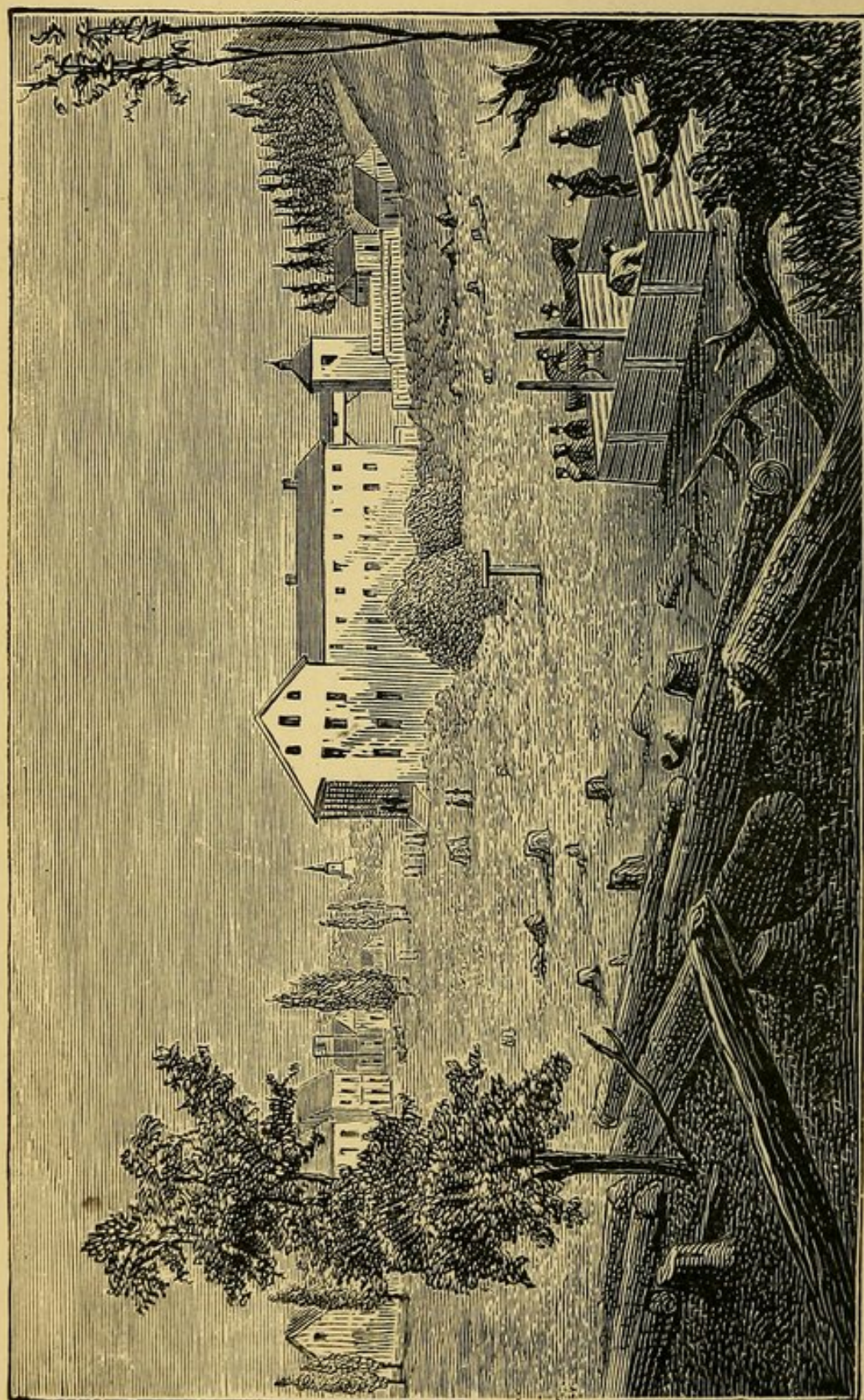




Digitized by the Internet Archive
in 2010 with funding from
Open Knowledge Commons and Harvard Medical School





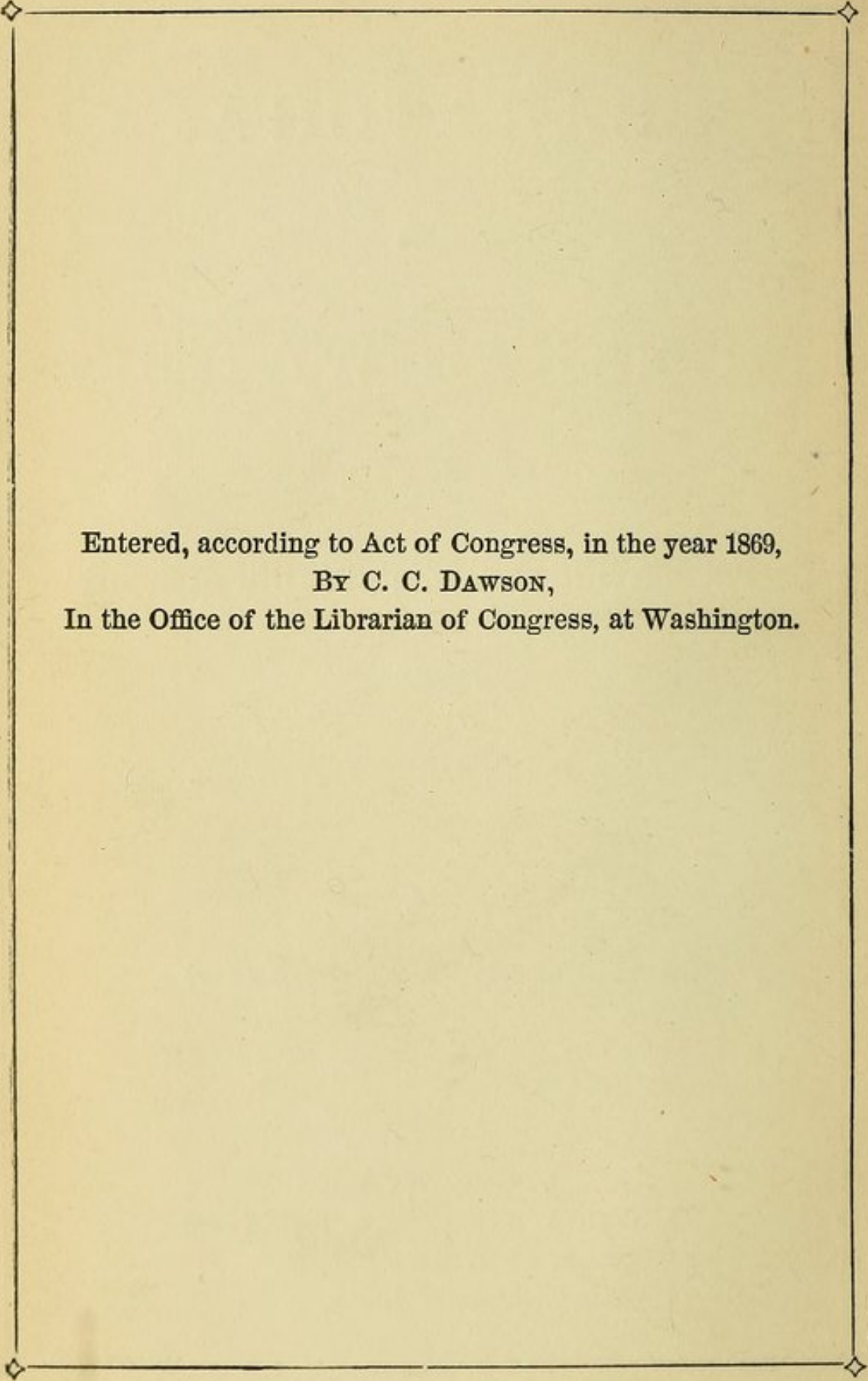


VIEW OF CONGRESS SPRING IN 1816. See p. 55.

SARATOGA:
ITS
MINERAL WATERS,
AND THEIR USE IN
PREVENTING AND ERADICATING DISEASE,
AND
AS A REFRESHING BEVERAGE.

BY C. C. DAWSON.

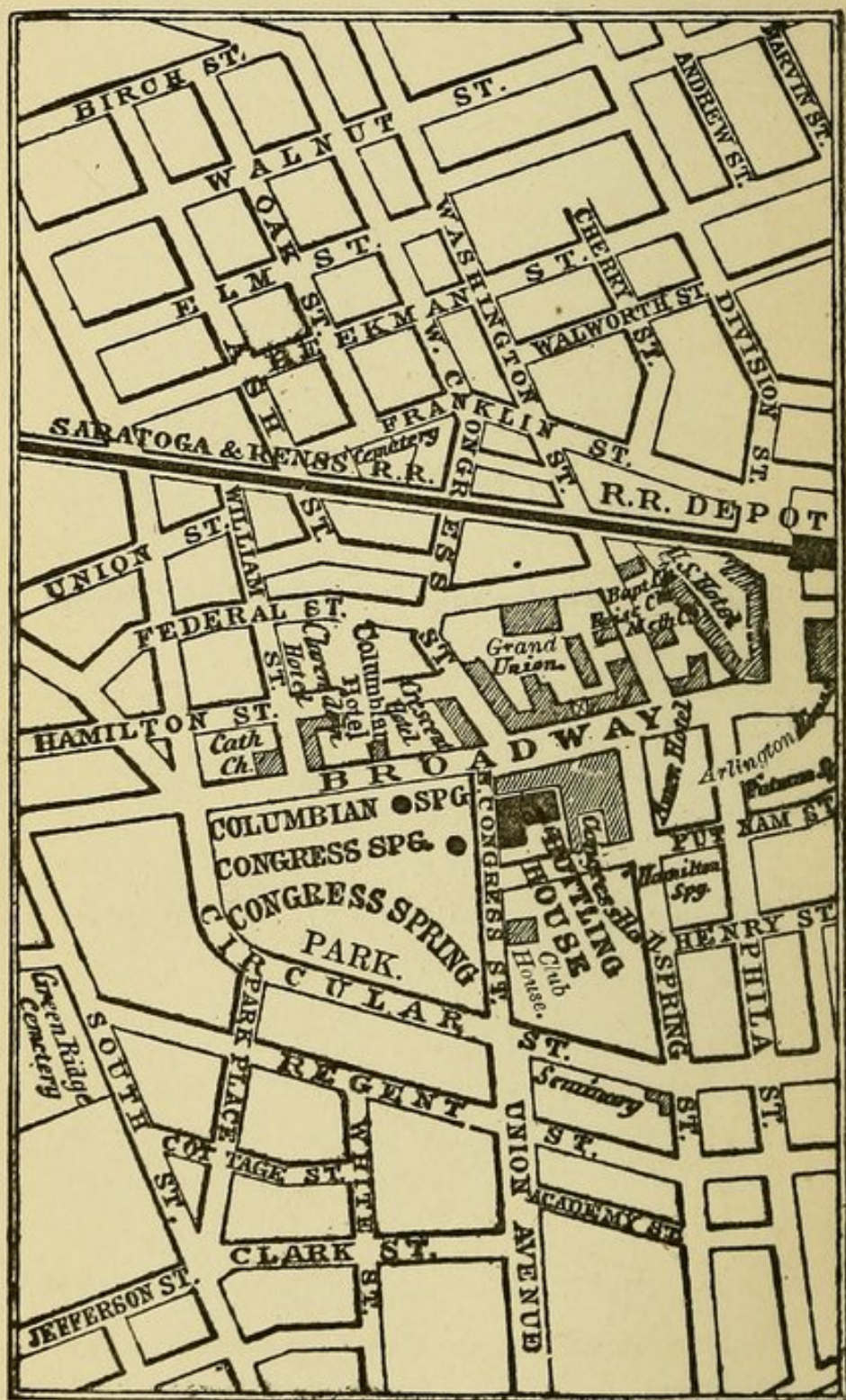
NEW YORK:
RUSSELL BROTHERS, PRINTERS,
17 TO 23 ROSE STREET.
1874.



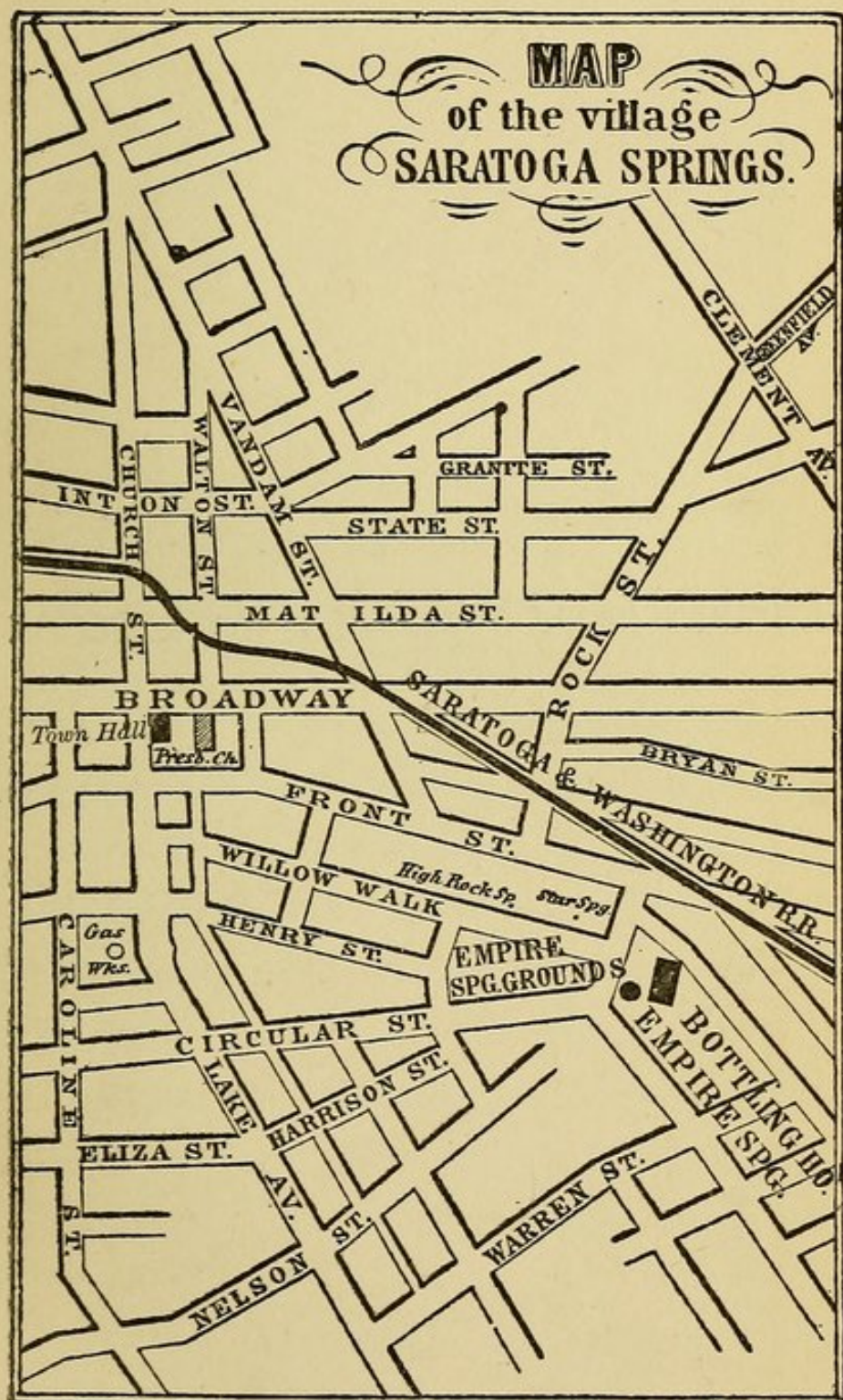
Entered, according to Act of Congress, in the year 1869,
BY C. C. DAWSON,
In the Office of the Librarian of Congress, at Washington.

REVISED.

Heretofore issued in Pamphlet Form.



MAP of the village SARATOGA SPRINGS.



“Nature is far better than the Laboratory.”

P R E F A C E .

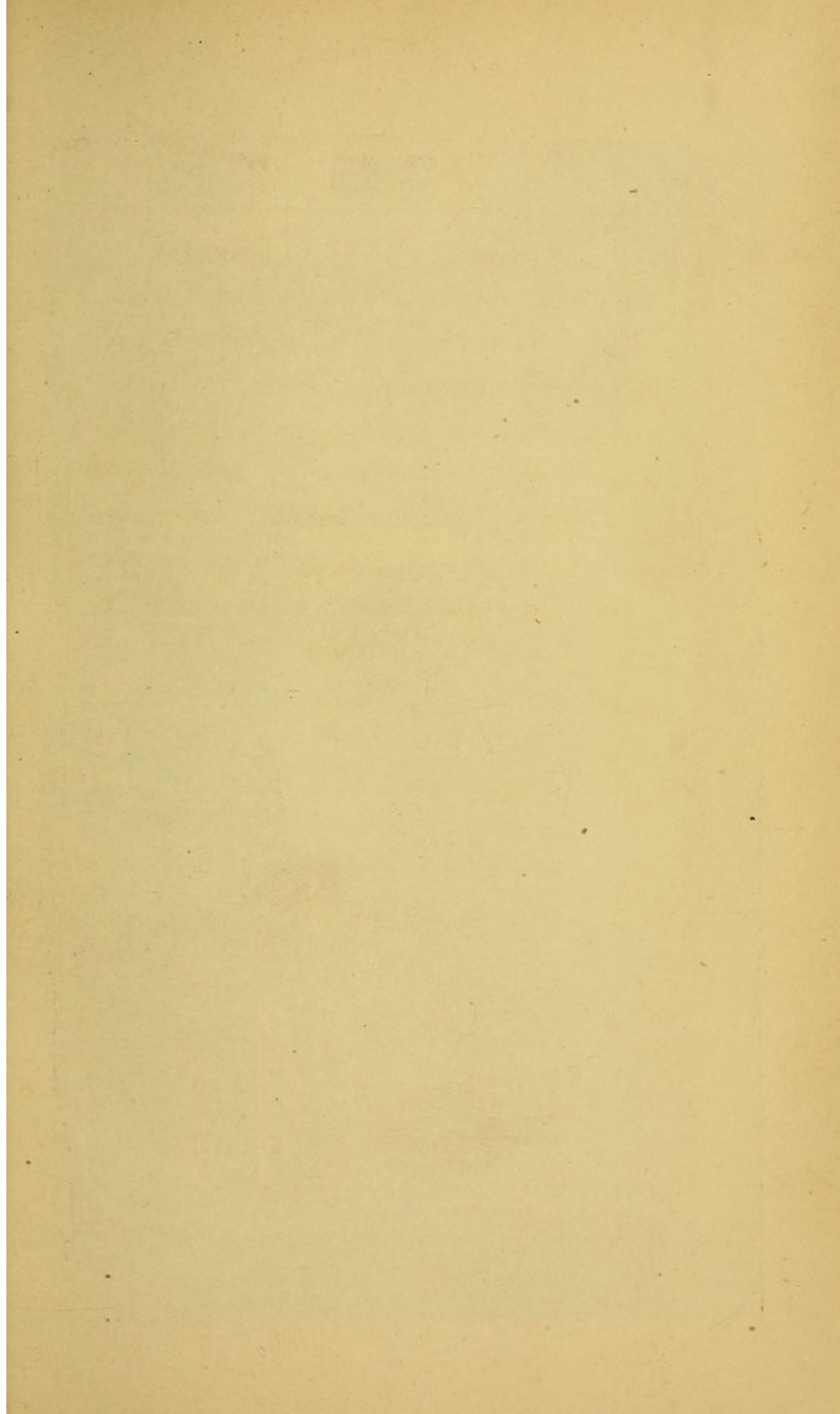
THE writer of the following pages has endeavored to give a faithful and comprehensive—though necessarily brief—account of Saratoga, and its remarkable medicinal Springs.

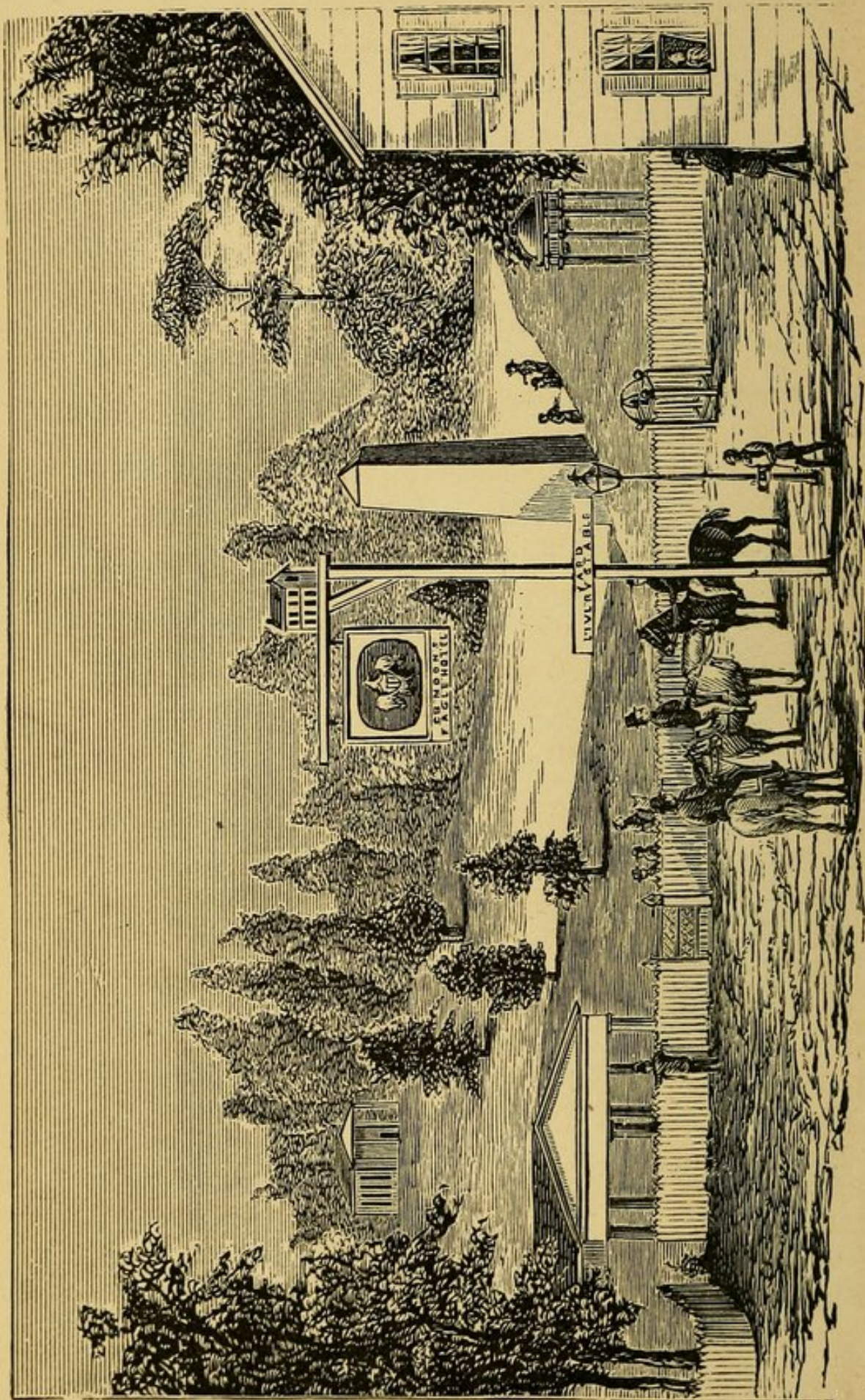
In regard to the character and history of these springs, there is manifested an increasing interest in every quarter of the world ; and as a description of their medicinal properties is a matter of the utmost consequence, the writer has consulted the standard authorities upon the subject, and has not hesitated to make use of the exact language of medical men who have published the results of their experience in prescribing and using the waters.

Although vast numbers annually visit the Springs, it is evident that only a small proportion

of those who might be restored to health by the use of these natural remedies can thus avail themselves of their benefits. "The fashionable and the rich," writes an eminent divine, "who fill these splendid saloons, are not alone the people for whom the beneficent Creator opened these health-giving fountains; but they are also those who occupy the sick chambers in all parts of the earth, who have never seen Saratoga, but who are relieved and comforted by its waters."

C. C. D.





CONGRESS SPRING IN 1842.

SARATOGA SPRINGS.

THE most celebrated mineral waters on the American continent are those of Saratoga, N. Y.

A tract of country many miles in extent is here found abounding in mineral springs, greatly diversified as to their chemical combinations, and as widely varying in respect to their importance as medicinal agents. The springs occur in a valley which runs nearly north and south through the elevated table-lands of this region, and in the midst of scenery of a varied and picturesque character. Mountain ranges whose bold outlines are seen in the distant background; rivers, among the finest in the world; rivulets and creeks in great numbers and of exquisite beauty; dense forests still undisturbed by the woodman's axe; lakes of surpassing loveliness; the peculiar charm of cultivated fields and rural villages,—all contribute to render this portion of the state highly attractive to the professional tourist, as well as to the ordinary seeker after health and pleasure.

The county of Saratoga lies between those streams so "famed in song and story," the Hudson river on the north and east, and the Mohawk on the south. To the north-west its surface is mountainous, suggesting the region of mountain-wilderness which lies beyond; but its ruggedness

gives way, as, in its central and southerly portions, it slopes toward the fruitful valley of the Mohawk, and displays a finely cultivated district. The soil is generally fertile. Iron-ore, sandstone, and limestone are abundant. The atmosphere is dry, pure, and highly electric, and its invigorating effects are peculiarly grateful to persons having weak or diseased lungs, and to all who are suffering in any way from the influences of a miasmatic climate, or the damp, chilling winds common to the sea-coast.

The village of Saratoga Springs is situated near the center of the county, thirty-eight miles by railroad north of Albany, and thirty-two miles north of Troy. It has a delightful location, three hundred feet above tide-water, in the vicinity of those mountain ranges which form the water-shed between the St. Lawrence and Lake Champlain. The Kayaderosseras, two thousand feet above the sea level, is only ten or twelve miles to the northwest, while within view, at the east and south, are the high ranges of the Green Mountains and the Catskills.

Although many watering-places which have acquired some notoriety within the last half century are now fallen into disrepute, this place has maintained a steady progress, and is now one of the most flourishing and attractive of our inland villages. It numbers, at the present time, about eight thousand inhabitants. Its churches, schools,

and stores are of a character suited to the necessities of a place of wealth and fashion. Elegant private residences, with handsomely ornamented grounds, are numerous, and rapidly multiplying with the increase of opulent citizens who establish country-seats here, or, upon retiring from active business, make it the place of their permanent abode. In this respect the town is speedily acquiring a resemblance to the most celebrated European watering-places. The grounds of the principal fountains are adorned with a great number of forest and ornamental trees, and, with the well paved and finely-shaded walks of the leading thoroughfares, render a promenade a delightful recreation. Provisions for the convenient and comfortable accommodation of visitors are made on a liberal scale. Furnished houses for the season may be obtained by those who desire them. Private boarding-houses are of course numerous. The most fashionable hotels are the "Grand Union," the "United States," the "Clarendon," the "Grand Hotel," and "Congress Hall." These are immense structures, having accommodations for from five hundred to fifteen hundred persons each; and for elegance, perfection of management, and sumptuous fare, are unsurpassed in the country. Their location, in the immediate vicinity of Congress Spring Park, is central and delightful. The "Grand Union" and the "United States" are now the largest and most elegant establishments of the kind in this country, if not in the world. The latter, burned some years ago, has been rebuilt on

a magnificent scale since the season of 1873. The proprietors of the "Grand Union" are connected with the management of several of the finest hotels in the country, and have acquired a wide celebrity as liberal and successful caterers. The "American" and "Arlington" (favorite winter as well as summer hotels) have been recently enlarged and renovated, and are reckoned among the most popular of Saratoga hostelries.

The club-houses of Saratoga, with their gilded saloons and gorgeous furniture, their rich wines and tempting viands, their flocks of fashionable patrons and curious visitors—the latter of both sexes and all classes—illustrate one phase of its varied modes of life,—making of Saratoga, as some say, though not all in the same sense, an American *Baden*; while the Indians—the remnants of an ancient tribe—who annually, during the visiting season, make their encampment in a pleasant grove to the northward of Congress Park, afford an illustration of the opposite extreme; and although the curiosity to see "nature's children" is perhaps less manifest here than might be supposed, still the number of visitors to the encampment is quite large.

The Springs are annually visited by at least one hundred thousand strangers, coming from every part of the Union, and from Canada, Europe, Mexico, South America, and the West Indies. Excellent bands of music play at the hotels each afternoon and evening during the height of the season, and a fine band also discourses harmony in the elegant park of the Congress Spring during some hours of each day. The streets are thronged with a gay and brilliant multitude, engaged in riding, driving, or walking, each enjoying to the

utmost a fascinating kind of busy idleness. Amusements of various kinds abound, and conduce much to the general lively and animated appearance of the town, while they indicate that pleasure and fashion are happily combined, and most properly associated with the medical treatment.

The Rensselaer and Saratoga Railroad passes through the village, connecting, at Troy, with the Hudson River and Harlem Railroads from New York; at Albany, with the People's Line of Steamers on the Hudson River, and the Boston and Albany Railroad from the east; at Schenectady, with the New York Central Railroad from the west; and at Rutland, with the Rutland and Burlington Railroad from both north and east; and at Whitehall, with the Lake Champlain steamers. Trains on the Rensselaer and Saratoga Railroad run each way twice a day, during the winter months, and three or more times a day during the summer months, connecting at above-named points with trains and steamers from all portions of the Northern, Eastern, and Western States, and Canada. Passengers by the day boats on the Hudson River have a full view of the magnificent Highlands of the Hudson, and of the Catskill Mountains, and reach Saratoga the same evening. Lake George, Lake Champlain, the Green Mountains, the Thousand Islands, Niagara Falls, Trenton Falls, Richfield, Sharon and Lebanon Springs, are all within a day's travel of Saratoga.

The country about Saratoga affords a variety of attractive drives, among the most popular of which is a short one of only four miles to Saratoga Lake. This beautiful sheet of water (nine miles in length by two and a half in breadth) is visited daily by large parties during the season. Hotels upon its banks provide tempting dinners of fish and game, and boats are at hand for such as desire to enjoy a trip upon the water. The college regattas are now annually held here, and the shores of the lake, replete with quiet and gentle beauty, have become the site of some of the most elegant private villas in the country—that of Frank Leslie, Esq., called “Interlaken,” being especially noticeable.

Bemis’ Heights, in the town of Stillwater, the scene of the famous engagement between Burgoyne and Gen. Gates, and the scene of Burgoyne’s surrender, in Schuylerville, are within a pleasant two hours’ drive of the Springs. They are imperishably associated with some of the most important events in the early history of our country.

Within a short distance of the Springs are several elevated points which afford characteristic views of the scenery of this region. All imaginable combinations and varieties of detail are here presented, but each position displays some new feature of mountain scenery, near or remote, with lakes of crystal purity, silvery streams, and beautiful valleys, which cannot fail to be keenly enjoyed by all who find a pleasure in charming panoramic effects. Among those elevations which will best repay the visit of the tourist are Waring Hill, or “Mount Loper,” sixteen miles distant, on the road to Mount Pleasant ; Stiles’ Hill, which is reached

by a drive of a few miles along the east base of the Palmertown Mountain; Chapman's Hill, which is reached by extending the lake drive across the bridge, and along the lake shore, for a mile, turning thence to the left for a short and sharp ascent; Wagman's Hill, which lies three miles beyond the last-named, and is nearly sixty feet higher; and Hagerty Hill, six miles from the Springs, near the road leading from the village to Luzerne, on the Hudson River.

Corinth Falls, in the Hudson, are fifteen miles north of Saratoga Springs, and about one mile from Jessup's Landing. Baker, Glen, and Hadley Falls are also among the numerous falls of the Hudson. These are about eighteen miles from the Springs, and, like Corinth Falls, are highly interesting, and well entitled to the notice of the tourist.

Lake George, greatly renowned for its prominent association with our early colonial and revolutionary history, as well as for its remarkable beauty, is twenty-seven miles distant. The striking scenery of its banks, its singular transparency, and the multitude of little islands which dot its surface like gems of emerald, render it probably the most picturesque sheet of water in the country. The Adirondack Railway, and stage ride of nine miles, is the pleasantest and most convenient route. Travelers can return the same day if necessary.

A view of the celebrated Cohoes Falls, on the Mohawk, is afforded in passing by rail from Albany to the Springs; but a carriage ride to the Falls, through the beautiful agricultural lands of that section, will give a much more satisfactory idea of the Falls and surrounding scenery.

A new avenue, which is called the "Mountain Drive," has recently been opened by the extension of Broadway northerly from the village. In addition to the fine scenery and healthful air, a short drive out on this fine avenue affords an opportunity to visit Mitchell's Glen House—famous for the excellence of its game and fish dinners—and the neat little Driving Park in the Glen, where a quick turn may be had on one of the best kept tracks in the vicinity. The location of House and Park is delightful.

But notwithstanding its connection with the War for American Independence, its salubrious climate, and the scenic charms of the country, Saratoga Springs must always be chiefly celebrated for its mineral fountains, and as a resort for invalids and pleasure-seekers.

Mineral waters have doubtless been used for the cure of diseases from the earliest ages. They are among those natural remedies which a primitive people would be likely to find best accommodated to their simple habits, and which they would adopt with that quick instinct, the wisdom and beneficence of whose guidance is so often confirmed in more favored times by an enlightened judgment and the results of scientific researches. Accustomed to a nomadic life, these people would of necessity seek the vicinity of springs and streams of water for their temporary resting-places; and as all spring and well waters are im-

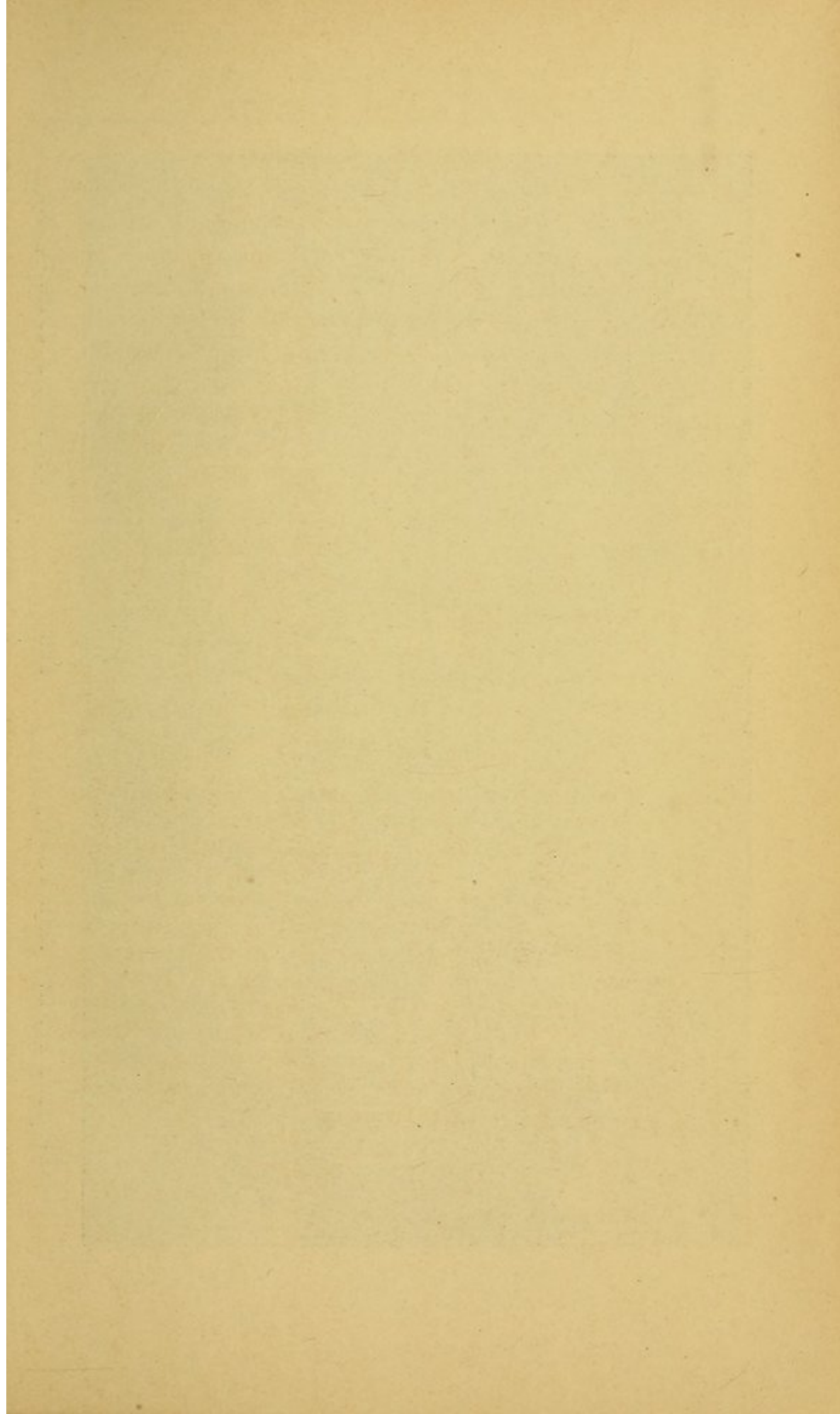
pregnated more or less with mineral elements derived from the soil through which they pass, and varying in different localities, they would soon discover that certain waters possessed peculiar virtues.

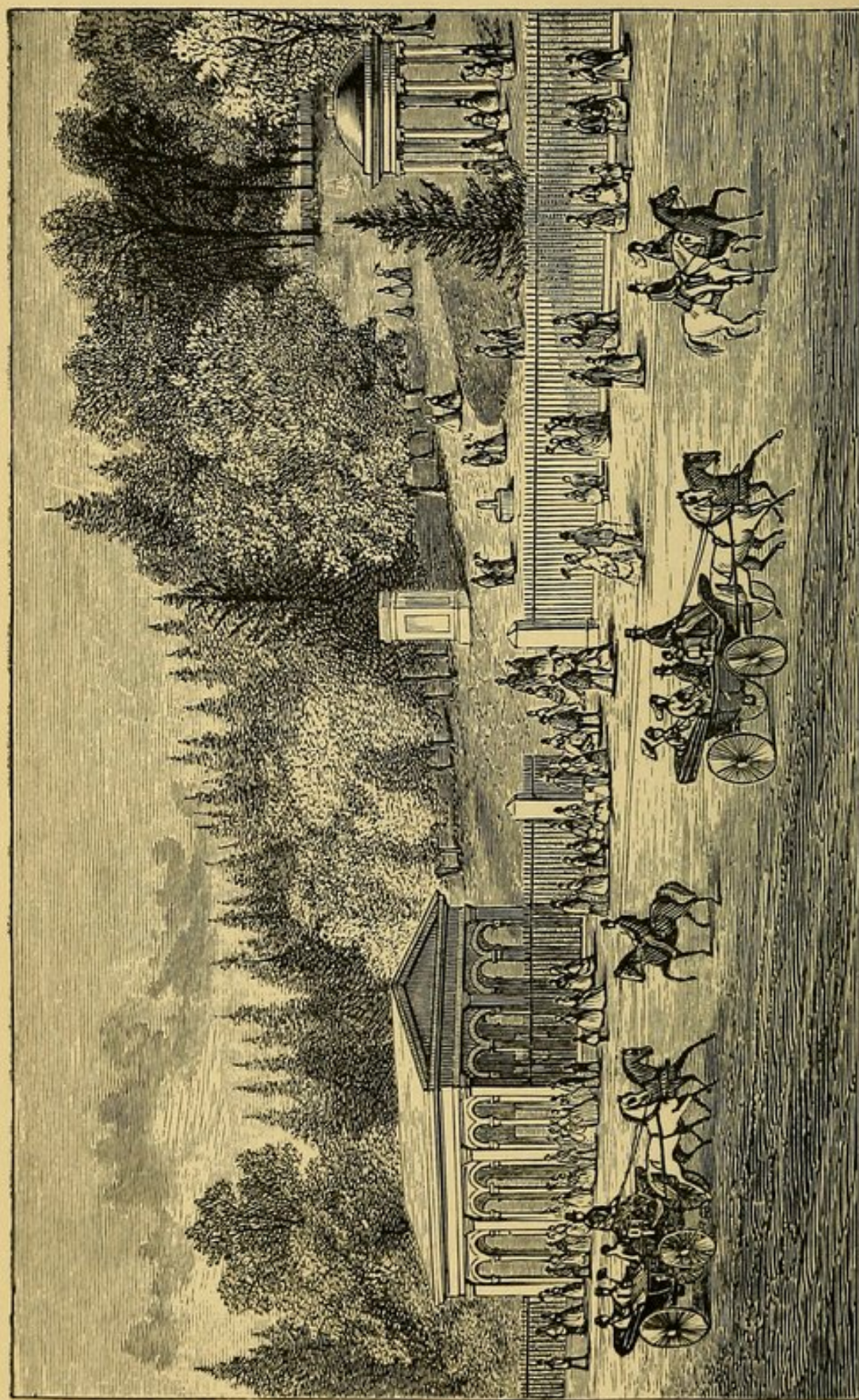
Only such waters, however, as may be used for the treatment of disease, or for some special influence on the animal economy, are properly classed as mineral waters. Anciently, such waters were regarded as almost sacred; and when the pool of Bethesda was agitated so that its strong medicinal properties were most active, the waiting multitudes supposed that an angel from heaven "troubled the water." The Greeks used mineral waters for drinking as well as for bathing; and the luxurious Romans were accustomed to spend their summer months at the once famous watering-place of Baia, where a mild climate, a sheltered coast, and delightful scenery combined their attractions with those of the waters whose healing powers had then a world-wide celebrity. In the old world, the springs of Harrowgate, Cheltenham, and Bath in England, Seidlitz in Bohemia, Spa in Belgium, Baden-Baden and Seltzer in Germany, and Aix-la-Chapelle in Rhenish Prussia, while they are of very ancient renown, are still at this day annually resorted to by thousands of fashionable and wealthy pleasure-seekers, as well as by invalids of almost every description.

It has already been remarked that mineral springs abound throughout this vicinity. Many

of these possess very little medicinal virtue. Among those at or near the village are the Congress, Empire, Columbian, Hamilton, Excelsior, Pavilion, Putnam, Washington, Star, High Rock, Hathorn, Eureka, Geyser, Red Spring, and Seltzer. Of these, by far the most important, commercially, as well as the most interesting for their medicinal character and history, are the three first-named. A particular notice of these springs will include all that it is needful to say in regard to the general character of the mineral waters of Saratoga. Before proceeding, let us quote from an editorial letter in a recent number of the *New York Observer* (August 14, 1870), expressing in a few words the sentiment of thousands of visitors, and presenting a life-like picture of the scene daily witnessed at the most noted of all American springs:

“The springs are delightful. The ‘Congress Water,’ the good old spring, the fountain of health, was never so delicious and so salubrious as now. I drink it every morning, and hold up the tumbler to see it ‘sparkling and bright’ between me and the sun, and then enjoy it with a zest unprecedented in former years. It has life in itself, and imparts its properties freely to those who drink it. Every morning a curious crowd convenes at Congress Spring. All classes and conditions congregate—women, children, statesmen, divines, politicians, beggars,—and all take their turn and their glass, and go away refreshed.”





CONGRESS SPRING AND PARK,

AND

COLUMBIAN SPRING, 1874.

CONGRESS SPRING.

THIS, the most famous of the medicinal springs of Saratoga, was discovered in 1792, by a party of gentlemen who were engaged in hunting in the vicinity. One of these was JOHN TAYLOR GILMAN, an ex-member of Congress, from Exeter, New Hampshire. Their attention was attracted to a small stream of water issuing from the rocky bank of the creek along which they were strolling, and which, upon being tested, was found to be a mineral water of agreeable taste and remarkable strength. The importance of the discovery seems to have been at once apprehended, and out of compliment to the leading personage of the company, and as a token of their high opinion of its value, the name of the **Congress Spring** was then and there bestowed upon it. At first the water could be obtained only in small quantities, owing to the position of the rock, and the nature of the aperture from which it flowed ; and this, with its increasing popularity, soon being found to be insufficient, efforts were made to render it more accessible, and at the same time to increase the supply. These efforts resulted in a temporary obstruction of the water.

In 1804, GIDEON PUTNAM, who was one of the founders of the village, and to whose enterprise and liberality it is indebted for many valuable improvements, observing bubbles rising to the surface of the brook within a few feet from the spot at which the water was first observed to flow, conceived the idea that the principal point of discharge was in the bed of the brook, and that by turning the stream aside through an artificial channel this invaluable spring might be permanently secured. In carrying out this design he was entirely successful, a copious supply of the mineral water being found to flow from the point indicated. After thus reaching the spring, he caused the earth to be carefully removed some feet below the bed of the brook, and by proper tubing so effectually protected it that an apparently unlimited supply was secured, without the necessity of any further excavation or tubing, for about forty years. At this time the grounds containing the Congress spring were owned by the LIVINGSTONS, an old and well known family, who had obtained the property under an early grant or purchase.

In 1823, Dr. JOHN CLARKE, of New York, a gentleman of very considerable scientific knowledge, and who had introduced the first soda-water fountains in that city, having seen and examined the water, and being convinced of its great medical virtues, and prospective commercial value, purchased the spring farm, as well as other property in the vicin-

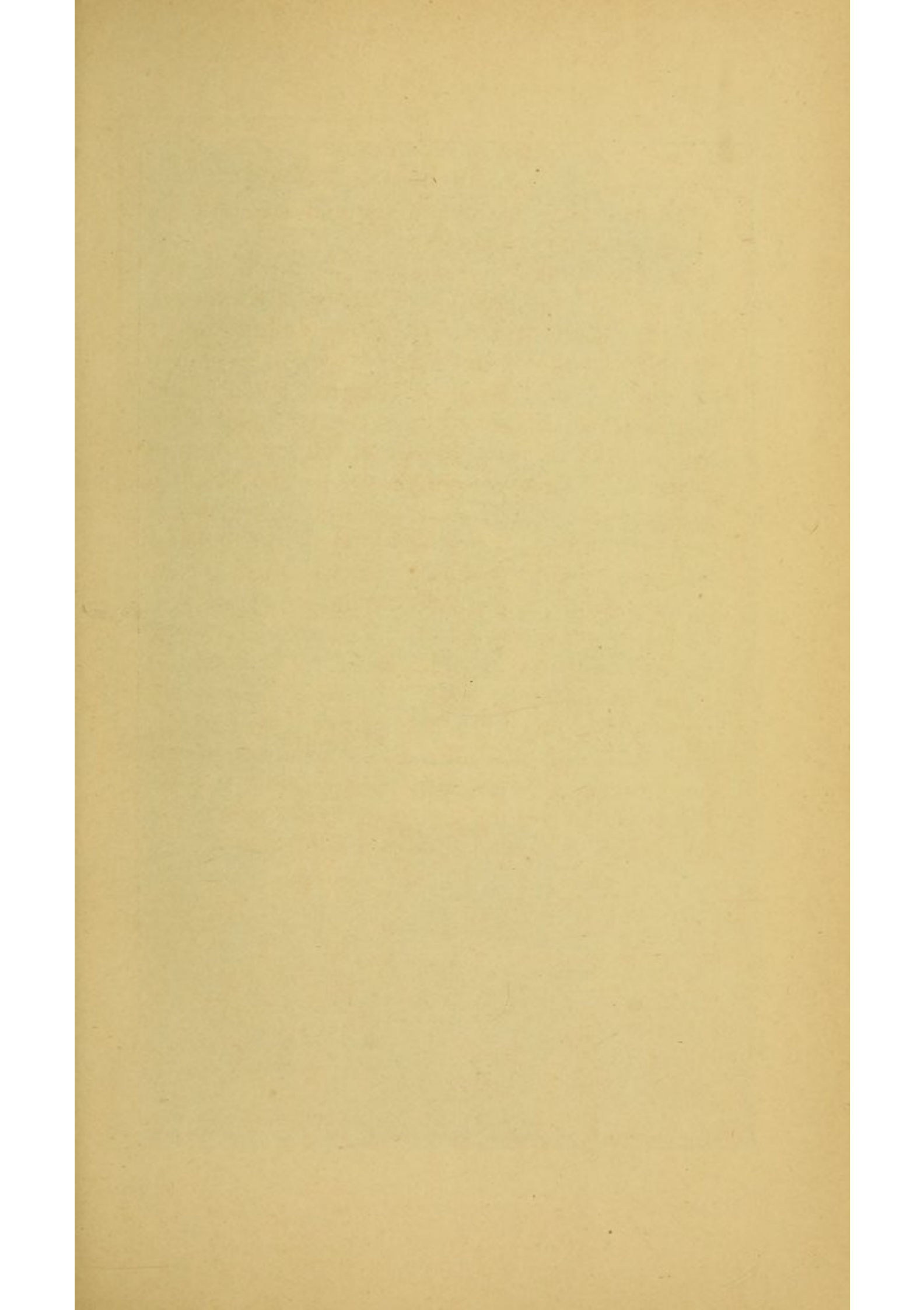
ity, and at once instituted various improvements, and commenced bottling the waters for exportation and sale. This business was carried on by Dr. CLARKE and his partner in New York, under the style of LYNCH & CLARKE, until the death of the former, about 1833, after which Dr. JOHN CLARKE conducted it alone.

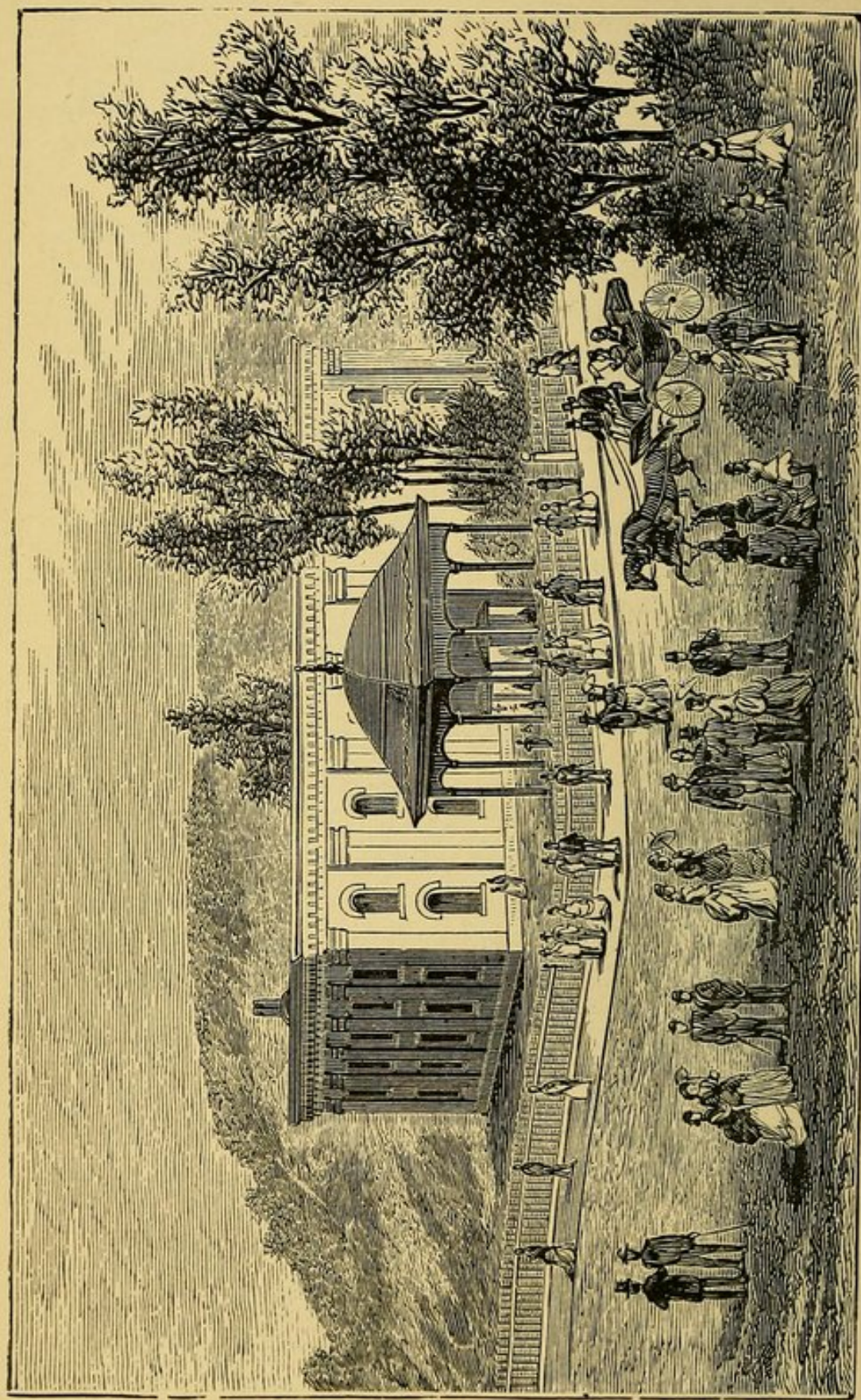
In 1842, the original tubing having become somewhat impaired, Dr. CLARKE caused it to be thoroughly overhauled, and a substantial new crib to be sunk to the point at which the water issued from the rock below. Here, by means of careful packing with clay, it was secured in such a manner as to protect the spring more perfectly than ever before, while at the same time the supply was sensibly augmented. The business continued and steadily increased under Dr. CLARKE's judicious management, until the time of his death, which occurred in 1846. For some years after this event the business was carried on by Dr. CLARKE's heirs, under the name of CLARKE & Co.

About the year 1852, WILLIAM B. WHITE, Esq., who had been previously connected with the business as an employé, acquired an interest in the property, and thereafter assumed control of the same, conducting the business in the name of CLARKE & WHITE. He continued the system of extensive and costly improvements inaugurated by Dr. CLARKE, and largely increased the sale of the waters, to protect and permanently secure

which, in their natural purity and strength, he expended large amounts.

In July, 1865, the property passed from the executors of the estate of WILLIAM B. WHITE into the hands of a company incorporated under the laws of the State of New York, who, at the same time, purchased the Empire Spring, and assumed the management of the business, under the name of the CONGRESS AND EMPIRE SPRING COMPANY. This company continues the bottling, packing and shipping of the waters, which are sent, not only to all portions of the United States and the British Provinces; but, to a considerable extent, also, to Mexico, South America, the West Indies, Europe, and China. The sale in foreign countries is constantly increasing. The home demand was never so great as at the present time. It would be difficult indeed to find a town of any magnitude in the United States where these waters are not kept for sale; and scarcely a vessel leaves our shores for any distant port which does not reckon them among its stores or freight.





EMPIRE SPRING.

EMPIRE SPRING.

THIS spring is situated near the base of a high limestone bluff in the northerly part of the village, about three-fourths of a mile from the Congress Spring, and is the most northerly spring of any considerable importance within the village limits.

The presence of mineral water in this locality had been known for a long period ; but, owing to the popularity of the Congress Spring, and the great expense attending the excavations and improvements requisite to make the water practically available, its development was neglected until the year 1846, when WILLIAM and HENRY S. ROBINSON, who were the owners of the property, undertook to tube it. They made an excavation about twelve feet in depth, eight of which passed through the dense hard pan to the solid rock, from which the water was found to issue so copiously that it became a task of no small magnitude properly to secure it. It was tubed, however, directly from the rock, and in the most thorough and satisfactory manner. The water immediately attracted general attention, and it was evident that it was of a quality scarcely, if at all, inferior in any respect to that of the Congress Spring,

as a cathartic and diuretic, while a chemical analysis, which was made during the same year by Prof. E. EMMONS, then State Geologist, and a man of eminent scientific attainments, developed the fact that it possessed some valuable properties which adapted it to the successful treatment of various forms of lung complaints—a class of diseases hitherto thought to be beyond the remedial powers of the waters of this locality. The knowledge of its characteristic properties thus acquired, so favorably impressed Prof. EMMONS that he immediately purchased one-fourth interest in the spring; and its successful use in the treatment of diseases has given it a rapidly increasing popularity and fully confirmed the favorable opinions originally founded upon its scientific analysis. It has proved itself adapted to a wide range of cases, especially of a chronic nature, and its peculiar value has become a well-recognized fact among medical men.

From the general resemblance of this to the Congress Spring, it was at first called the “New Congress;” but afterwards, in 1848, when it came into the hands of GEORGE W. WESTON and PECKHAM H. GREEN, it received its present name, as significant of its speedily acquired importance. These parties, under the firm name of G. W. WESTON & Co., commenced bottling the water, and making extensive improvements, particularly in the opening of streets, and draining and ornament-

the opening of streets, and draining and ornamenting the grounds, and their business soon acquired a considerable degree of magnitude.

In 1861, the property was sold for \$100,000 to D. A. KNOWLTON, and in 1863, KNOWLTON conveyed the same to the Saratoga Empire Spring Company, by whom the present buildings were erected. This company transferred the property by deed to the CONGRESS & EMPIRE SPRING COMPANY, upon its consolidation with that company, in 1865, the latter company thus assuming its management in connection with that of the Congress Spring, as already stated.

COLUMBIAN SPRING.

THIS mineral spring, situated only a few rods southwesterly from the Congress, was originally tubed by GIDEON PUTNAM, about the year 1805. It soon acquired a considerable reputation for its tonic properties, and of late years has become widely known for its virtues in particular diseases, of which mention will be made hereafter. Since

the discovery of its peculiar remedial properties, the sale of its waters, as well as the quantity drank at the spring, has largely increased, and at the present time the demand is nearly equal to the capacity of the spring. Being situated upon the same property with the Congress Spring, Dr. JOHN CLARKE came into possession of it at the time of his purchase of the Congress, and it has ever since been owned and controlled by the same parties.

The spring issues from the natural rock, about seven feet below the surface of the ground, and is protected by a heavy wooden tubing, which is deeply incrustated by a ferruginous deposit.

PHYSICAL PROPERTIES

OF THESE WATERS.

THESE springs, in their general appearance, are so nearly alike, that they may be described in almost the same terms. As viewed at the springs, the waters present a simmering appearance, which is sometimes increased to a degree of violent agitation, caused by the escape of the carbonic acid gas, which is constantly passing off, and which, being more dense than the atmosphere, collects over the surface of the water to such an extent as to be immediately fatal to breathing animals placed in close contact with it.

The waters are limpid and sparkling, which qualities they retain in a remarkable degree when bottled; although the Columbian Water, being strongly impregnated with iron, deposits a reddish-brown sediment, with which also the glasses used at the spring become incrustated. The glasses used in dipping the waters of the Congress and Empire Springs become tarnished with a whitish incrustation, indicating, particularly in the case of the Congress Spring, the presence of a large amount of magnesia.

The waters have a saline, acidulous taste, which is seldom considered unpleasant. Indeed, while their medicinal properties are most effective, they are highly agreeable to the palate, and those who are accustomed to their habitual use regard them as a delightful beverage. This is, in a large degree, owing to the presence of the carbonic acid gas, which gives the bright sparkling appearance to wines, and renders soda waters and similar preparations so extremely palatable. Great numbers of persons drink the waters daily, merely to allay thirst, or to gratify the palate; and even though taken in liberal quantities they are regarded as invigorating and wholesome, and their effects are seldom unpleasant.

The temperature of the springs preserves a great degree of uniformity—that of the Congress being 49°, the Empire 54°, and the Columbian 49°,—with the variation of scarcely a degree in all the

extremes of heat and cold throughout the year. This fact, together with the circumstance of the waters being but slightly affected by wet or dry weather, has led to the belief, entertained by many scientific men, that these fountains have their source at a great depth in the earth.

The combination of so large an amount of carbonic acid in the water, more than one volume of the gas being held in solution, increases its powers to hold other minerals in solution, and accounts for the fact that the water, upon evaporation, deposits mineral salts which many times its bulk of common rain-water will not re-dissolve.

When properly bottled and corked, the waters are preserved with remarkable facility, scarcely undergoing any change whatever, chemically or medicinally, in any climate, or after a very considerable lapse of time. The bottles, however, should be kept in a horizontal position, to prevent the shrinking of corks; and with this simple precaution, the waters may be safely taken upon long sea-voyages, and will be found bright and sparkling even after the lapse of several years.

Various tests, which have been applied during a long series of years, indicate that there has been no appreciable change in the chemical properties or medicinal qualities of the waters, and satisfactorily prove that these fountains retain their original character in a remarkable manner.

Although, on being exposed to the atmosphere,

a considerable quantity of carbonic acid gas is disengaged from the waters, experiments have shown that they still retain the gas largely in combination, for which reason no considerable precipitation of their salts takes place until the waters themselves are evaporated.

MEDICINAL PROPERTIES

OF THESE WATERS.

Congress Water.—While these waters have active remedial properties, their effects, when used in comparative health, as an agency for promoting and regulating the healthy secretions and excretions of the body, should not be overlooked. They give tone to, and prevent uneasiness of, the stomach, especially when drank in small quantities after meals; and their slightly stimulating effects are especially agreeable to the overtaxed and wearied man of business, who feels that something is wanted to “clear the head,” and to give acuteness and working power to the mental organism. Being readily absorbed and conveyed by the circulation through the entire system, their stimulating effects are speedily perceived, and the result is an almost immediate sense of freshness and quickened vitality. As a preventive also of fevers and bilious disorders their use is very beneficial;

persons who are in the habitual use of the waters rarely or never suffering from those periodical attacks of fever, headache, and other affections indicating excessive biliary secretions, so common in this country. As a safeguard against these forms of disease, when taken in health, these waters are the "ounce of prevention" which is infinitely better than a "pound of cure."

As an *aperient* or *cathartic*, Congress Water, taken at proper times, and in suitable quantities, is conceded to be most innocent in its effects, producing no reaction which can injure even a delicate constitution; and its use may be persevered in for almost any length of time, without increasing the quantity taken, as is so often necessary in the use of other cathartics. Even with a gradual diminution of the quantity, free evacuations will continue until the system is properly relieved. These effects are produced without in any manner debilitating the alimentary canal, or impairing the digestive powers of the stomach; while the spirits, appetite, and general health are improved and invigorated.

In all those functional affections of the organs employed in the process of digestion, constituting what is usually termed *dyspepsia*, the waters of this spring have long maintained a high and deserved reputation. Multitudes of both sexes often suffer from constipation of the bowels until all the evil consequences of such a condition are realized in extreme debility, nervousness, and prostration

of the vital energies of the system, who might find speedy and certain relief by the use of this simple and harmless remedy. Invalids have been often surprised and delighted, after using the waters a few weeks, to find themselves rapidly gaining flesh and strength; the real secret of their improvement being in the effect of the water, which greatly increases the power of assimilation, thereby securing a larger proportion of the nutrition contained in food, much of which is lost when the digestive functions have become impaired. In cases of chronic dyspepsia, a persevering use of the water, with proper dietetic restrictions, and suitable attention to the ordinary rules of health, gives the sufferer a speedy sense of relief, and in the end is certain to eradicate the disease, with its attendant miseries.

Where there is a debilitated condition of the stomach and bowels, resulting in chronic *diarrhœa*, the water acts at once as a mild and agreeable cathartic, producing free dejections, without languor or debility, thus removing the foetid and irritating accumulations induced by the inflated state of the system, and which provoke the disease; and it also acts as a gentle stimulant, by which the digestive functions are improved, and such additional strength imparted to the body as enables nature successfully to combat with the disease. These effects indicate the grounds upon which these waters have long been recommended

as a preventive of *cholera*. In cases of the appearance of the premonitory symptoms, or of an actual attack of the disease, they have been used, in connection with other remedies, with the best results. The waters operate powerfully upon the biliary organs without enfeebling—the effects which, in cholera, physicians endeavor to produce by calomel pills combined with opium. The late Chancellor WALWORTH, but a short time before his death, published, in an Albany paper, a letter which has since been issued in pamphlet form, and extensively copied by the press of the country, in which he detailed his experience in the use of Congress Water, both as a preventive of, and a remedy for, this terrible disease—showing that very efficient relief might be obtained by its use.

The use of the water as a cathartic is also beneficial in *jaundice*, the various forms of *neuralgia*, *enlargement of the liver and spleen*, *rheumatic affections*, *cutaneous diseases*, and in nearly all disorders occasioned by that round of fashionable indulgences generally termed “high living.” Instead of causing nausea or disturbance of the stomach, as is the effect of ordinary cathartics, the water, while it produces copious evacuations, seems at the same time to invigorate the whole system, giving a relish for the coarsest and most common articles of food. The freedom from griping pains which is noticeable in the cathartic operations of the water, is owing to the sedative effects of the

carbonic acid gas, which also tends to prevent that sense of languor usually accompanying the operations of ordinary medicines of this class.

The proper time to take these waters as a *cathartic* is in the morning only, except in cases where satisfactory effects are not obtained from the morning draught, when it may be taken as a laxative on going to bed, to be followed in the morning by such additional quantity of the water as will answer the wishes of the patient, without subjecting him to inconvenience. This being, especially in persons of weak or irritable stomachs, the only time in the twenty-four hours in which the digestive organs are not engaged in the solution and absorption of aliment, is evidently the best time to interpose a mild, exhilarating, and efficient cathartic. Let the water be taken always before breakfast, and in quantities sufficient to produce a free evacuation, and leave the digestive functions at liberty to exert their renewed powers on the next portion of food received into the stomach. Many persons receive permanent injury by indulging too freely in the use of the water, supposing that its beneficial effects are in proportion to the quantity imbibed, whereas the facts are very different. Two or three half-pint tumblers full, drank (*not sipped*) at the spring or from the bottle; a pleasant walk, if practicable, for five or ten minutes; another glass or two, if desired, on returning to breakfast, which may be eaten in fifteen

or twenty minutes after,—a cup of hot tea or coffee being previously taken,—will generally insure the full cathartic effect at once; and if the operation is more active than desired, the quantity may be diminished, and if not sufficient, increased, the next morning.

If the water at its natural temperature produces chilliness, let it stand (properly bottled and corked) in your room over night; and if more active cathartic effects are desired, immerse the bottle, uncorked, for a short time in warm water, drinking its contents while warm, and the desired effects will be speedily obtained. When the temperature of the water is thus raised, some portion of the carbonic acid gas becomes disengaged, and passes off, and the taste is less agreeable, but still not especially unpleasant.

A free indulgence in the water during the day is more likely to be injurious than beneficial, as when the stomach is full the water imbibed (if in large quantities) only tends to disturb digestion, and generally fails of producing the cathartic effect which properly follows the morning draught. As an *alterative*, however, after proper cathartic effects have been obtained from the use of the water, it may be taken in small potations repeatedly through the day. If the draughts are limited to such very moderate quantities as will produce no unpleasant feeling, and no disturbance of the digestive functions, the water will be taken up in

the circulation, and conveyed throughout the system, thus gradually effecting a change in all the secretions of the body, by which the work of renovation and reparation is more perfectly accomplished.

As a *diuretic* and *tonic*, also, the water may be taken between meals, not exceeding a glass or two at a time, and as often as once in three or four hours. Taken in this manner it will be found to be agreeably stimulating, and to have a marked effect on the kidneys and bladder; although, owing to the peculiar properties of the Columbian Spring Waters, they are more frequently recommended when these effects are desired.

As a general renovator and preserver of health, as a home remedy at once innocent and efficient, Congress Water is of incalculable value. It is prescribed by the faculty in certain diseases with as much confidence as any preparation known to the apothecary. It is in an eminent sense Nature's own remedy, and thousands use it who resort to no other medicine, never suffering themselves to be without it in their houses, and never venturing to go upon a long journey, especially a voyage at sea, without being provided with it as an excellent and judicious traveling companion. It is an almost absolute preventive of *sea-sickness*. Hon. THURLOW WEED declares that "no family ought to cross the Atlantic without Congress Water." "I have drank it," he says, "in the Tropical

Islands, in England, in France, in Germany, and Italy, with the same beneficial effects as when drawn fresh from the Spring ;” and he and many others characterize it, as it truly is, a *delightful beverage*.

Empire Water.—The close resemblance of this water to the Congress in many of its properties has already been remarked. In the cathartic effects of the two waters the difference is scarcely appreciable, although from the presence of a larger quantity of magnesia in the Congress Water, the operation of the latter is perhaps somewhat more pungent. But with very many constitutions the Empire Water produces the most agreeable results. It cannot be predicted with certainty in any instance, which water, as a cathartic, will be most effective, and after trial and comparison of the effects of both waters, the preference is frequently given to this.

The value of the waters has been best shown in the treatment of obscure and chronic diseases. In many instances persons have been restored to health, or greatly relieved by the use of these remedies, when all others proved of no avail. Although the science of chemical analysis has now attained a good degree of accuracy, the waters doubtless still contain elements not yet known to chemistry or pharmacy. These, entering into and forming a part of the inimitable composition of

these waters, enable them to exercise upon the general economy a multifarious action which all the united resources of ordinary therapeutics cannot effect. The salts of bromine, for example, are of recent discovery in chemistry, but, as component parts of certain mineral waters, have long been successfully used in the treatment of disease. It is evident, therefore, that there may be other remedies in these waters still unrecognized except in the effects produced by their use. It must, indeed, be borne in mind that we cannot be said to know very accurately the real chemical constitution of these waters. The chemist finds by his analysis bases and acids, but he cannot tell us with absolute certainty how they are combined. The order in which the various ingredients have been brought together is Nature's secret. There is also an element of *time* in the preparation of these waters the importance of which must be considered. How different the method of Nature from the hasty compounding of crude drugs by the conscienceless manufacturer and vender of worthless imitations, too often sold as "genuine!"

Empire water is used successfully by those who are suffering from the incipient stages of *pulmonary disease*. Instead of producing fever, increase of cough, or any other unpleasant symptoms, it gives relief, and causes a diminution of night sweats. *Coughs* and *pains about the pectoral regions*, where dependent upon a *diseased action* or

irritated condition of the stomach and bowels, are also most effectually removed by a persevering use of the water. In cases of *scrofula*, its use has been uniformly attended with benefit, and frequently has resulted in the entire removal of the disease. In all *dyspeptic* and *bilious diseases* it is eminently beneficial, as also in the removal and cure of the thousand unpleasant results of *constipation*. Those who drink this water find that it requires less to affect them as a *carthartic* after using it a few weeks or months than when first taken.

This water is especially adapted to the successful treatment of *rheumatism* and *gout*, which are certain to be improved or cured by its use; and all *eruptive diseases of the skin*, *pimples*, *blotches*, and *ulcers*, are most effectually eradicated, while its purifying effect adds tone to the stomach, and invigorates the whole system. As a preventive or remedy for the diseases natural to warm climates, especially *intermittent*, *gastric*, and *bilious fevers*, *dysenteries*, and *disorders of the liver*, this water is a remedy of remarkable efficacy. It gives vigor to the circulation, removes constipation, creates an appetite, and promotes a healthy condition of all the secretions and excretions of the system.

The directions for using this water are the same as for Congress Water, and those who use the bottled water will find a pint bottle ordinarily sufficient as a *cathartic* in the morning, but a larger portion may be taken if deemed necessary to increase the effect, and the quantity required can always be determined by a fair trial of the water.

As an *alterative*, from one-fourth to a whole tumbler should be taken three or four times a day.

As a *diuretic* or *tonic* it should be taken between meals, a glass or two at a time.

Empire Water is, in the estimation of many visitors, the most agreeable in taste of all the Saratoga Waters. In it are happily combined the properties of an efficient medicinal agent and those of a pleasant and exhilarating beverage.

Columbian Water.—This water, possessing valuable diuretic, tonic, and alterative properties, is deserving special attention from those who are suffering the debility and prostration which result from long-continued *diseases of the kidneys and bladder, gravel, and irritated condition of the urethra*, aggravated, it may be, by neglect or imprudence. In all such cases the Columbian Water can be used with the assurance of immediate relief from the annoying and distressing symptoms which belong to this class of diseases, and of the restoration of the healthy action of those organs.

As a chalybeate mineral water it possesses singularly active properties, which have the effect to dissolve the *calculi*, and prevent accumulation of deposits in the bladder. For the distressing disease known as *diabetes*, it stands unrivaled as a remedial agent. A fair trial will remove all doubts of its positive beneficial effects in all *inflammatory conditions of the urinary passages*, and while acting

as a curative, its tonic effects combine to give strength and vigor to the impaired powers of the system.

The large quantities of free gas, together with the iron so abundant in it, render it a tonic of great value in many cases of *irritable and weak digestive and assimilating organs*. Its use is found to strengthen the tone of the stomach, and to increase the red particles in the blood, which, according to LIEBIG, perform an important part in respiration. Experiments have proved that the number of these particles may be doubled by the use of preparations of iron ; but it must be remembered that the ordinary preparations of this mineral, to be obtained of the apothecary, produce comparatively little effect, passing as they do through the alimentary passages with very little absorption. Mineral waters, on the contrary, as may be inferred from the experiments of Dr. BEAUMONT, are introduced into the blood by the absorbents of the stomach, without any previous deposition or digestion, and "are thus admitted to the inner coats of all the blood-vessels, and to the minutest branches of the secretory apparatus."

In *liver complaints*, in *dyspepsia*, in *erysipelas* and all *cutaneous diseases*, as also with *slowly-healing wounds* and *ulcers*, this water, taken in small quantities—say, half a tumblerful at a draught—but *frequently* through the day, and preceded by

the free use of Congress or Empire Water, taken before breakfast (to promote free action of the bowels), will be found highly beneficial, strengthening, and restorative.

As a remedy also for *chlorosis*, and a variety of other *complaints peculiar to the female sex*, this water is especially recommended, and will prove a great blessing, adapted to restore the health and vigor of youth, and to impart a freshness and beauty to the complexion which cannot be retained unless the female system is free from obstruction and in a healthy condition. These difficulties, being generally chronic in their nature, require a persevering use of the water; and in most cases, to insure the best results, the bowels should be kept open by the occasional use of Congress or Empire Water, taken in the morning. The want of a free action of the bowels is, indeed, often the procuring cause of many difficulties, such as *irregularity* and *suppression*, which might be avoided by the combined use of these waters, which, causing neither pain, nausea, nor any other unpleasant symptoms, yet impart freshness and vigor by their peculiar effects.

Physicians at the springs, and elsewhere, frequently prescribe Columbian Water to follow a course of treatment with the more aperient waters of the Congress and Empire Springs. When suffering from the prostration and debility following either of the various forms of bilious, intermittent,

and gastric fevers, the patient finds its reparative effects extremely beneficial.

The quantity of water from this spring to be used daily must necessarily depend, in a great measure, on the state of the disease, and the condition of the stomach. It is therefore best to commence its use in small quantities at a time, and at regular intervals, gradually increasing the quantity and frequency of the draughts, as may be most agreeable to the stomach, and best adapted for each peculiar constitution or complaint.

The proprietors bottle it in half pints, so that it can be used without waste, a half pint being ordinarily sufficient for two draughts as prescribed. It is also bottled in pints, for those who prefer it put up in this manner.

When drank, the water betrays a strong chalybeate taste, and a pungency indicative of the presence of a large portion of carbonic acid.

DANGER OF ARTIFICIAL WATERS.

THE important services which these waters have rendered far away from their source, and the consequent increasing demand for them, have had the effect to stimulate the manufacture of artificial mineral waters, which have frequently been

imposed upon the public by unscrupulous dealers as the genuine waters of these springs.

The use of the terms "Congress Water," "Columbian Water," or "Empire Water," alone or in combination with other words, when applied to any other than the liquids naturally flowing from these springs, is an evident violation of the rights of the proprietors, and a fraud upon the public. In a recent case, determined in the United States Court, the manufacturer and vendor of an artificial compound, sold as Congress Water, were enjoined from putting up or selling "any water not of the natural flow of the said spring, in bottles or packages marked with the words 'Congress Water,' or with words of like import." It would be well for the public if this matter were more fully understood, as the articles thus offered are entirely worthless, and often dangerous; their use frequently producing griping pains, vertigo, etc., and sometimes resulting in serious permanent difficulties,—effects wholly different from those produced by the genuine waters. They weaken the digestive powers, and destroy the tone of the stomach and bowels, often rendering a mild case of dyspepsia incurable. Old boxes and bottles, bearing the genuine brands, are often bought up by counterfeiters for the purpose of filling them with their valueless articles—for which reason purchasers should always examine the corks, which cannot be used a second time, and which, if the waters

are genuine, will have the brand of the bottling company.

The injury inflicted by the sale of these artificial compounds upon the proprietors and the public is double; for on taking these spurious articles, and finding either no effect, or injurious effects, from their use, purchasers in future refuse the genuine waters, supposing they have already tried them; or, knowing that the waters used are artificial, decline the natural waters on the supposition that they have tried what is in substance the same, without benefit—as if there existed the slightest comparison between them!

That it is impossible to form these waters artificially, the testimony of scientific men is uniform and abundant. “It is impossible,” says the celebrated English chemist, Sir HUMPHREY DAVY, “to recombine the ingredients so as to make an article of equal quality, the effects of which will be the same as the natural water.” The language of the late Dr. JAMES JOHNSON, of London, is as follows: “Mineral waters contain many agents which we cannot imitate by artificial combinations. This is proved by every day’s observations. Thus, the saline, aperient mineral waters will produce ten times more effect than the identical materials artificially dissolved and mixed. The same is true with respect to the chalybeate springs. *A grain of iron in them is more tonic than twenty grains exhibited according to the pharmacopœia.*”

An acorn may be analyzed, but it is as impossible for the chemist to form an acorn from its chemical elements as it is for him to create the oak, which in the course of nature the acorn is destined to produce. To give the name, therefore, of Congress Water to a mere solution of common salt, soda, magnesia, lime, and iron, or other minerals, is as absurd as to give the name of wine to a mixture of cream of tartar, alcohol, and mineral salts, which this liquid proves to be when analyzed.

In so important a matter it is deemed well to add the testimony of Dr. CONSTANTINE JAMES, to be found in his "*Practical Guide to the Mineral Watering-places of Europe.*" "Artificial mineral waters of the best fabrication are, in a medical and chemical point of view, only a poor counterfeit of the real waters whose names they usurp. They are doubly pernicious, as they do not attain the physician's aims, and cast a certain discredit on the genuine production."

The testimony of Dr. A. A. HAYES, and S. DANA HAYES, Esq., State Assayers for Massachusetts, is to the same effect. "Although we know just what the genuine water contains, an artificial water made by the analysis would not be the same thing medicinally. Mineral waters are the productions of natural, chemical agencies, aided by time, and we really know but little of the resulting combinations and their physiological effects."

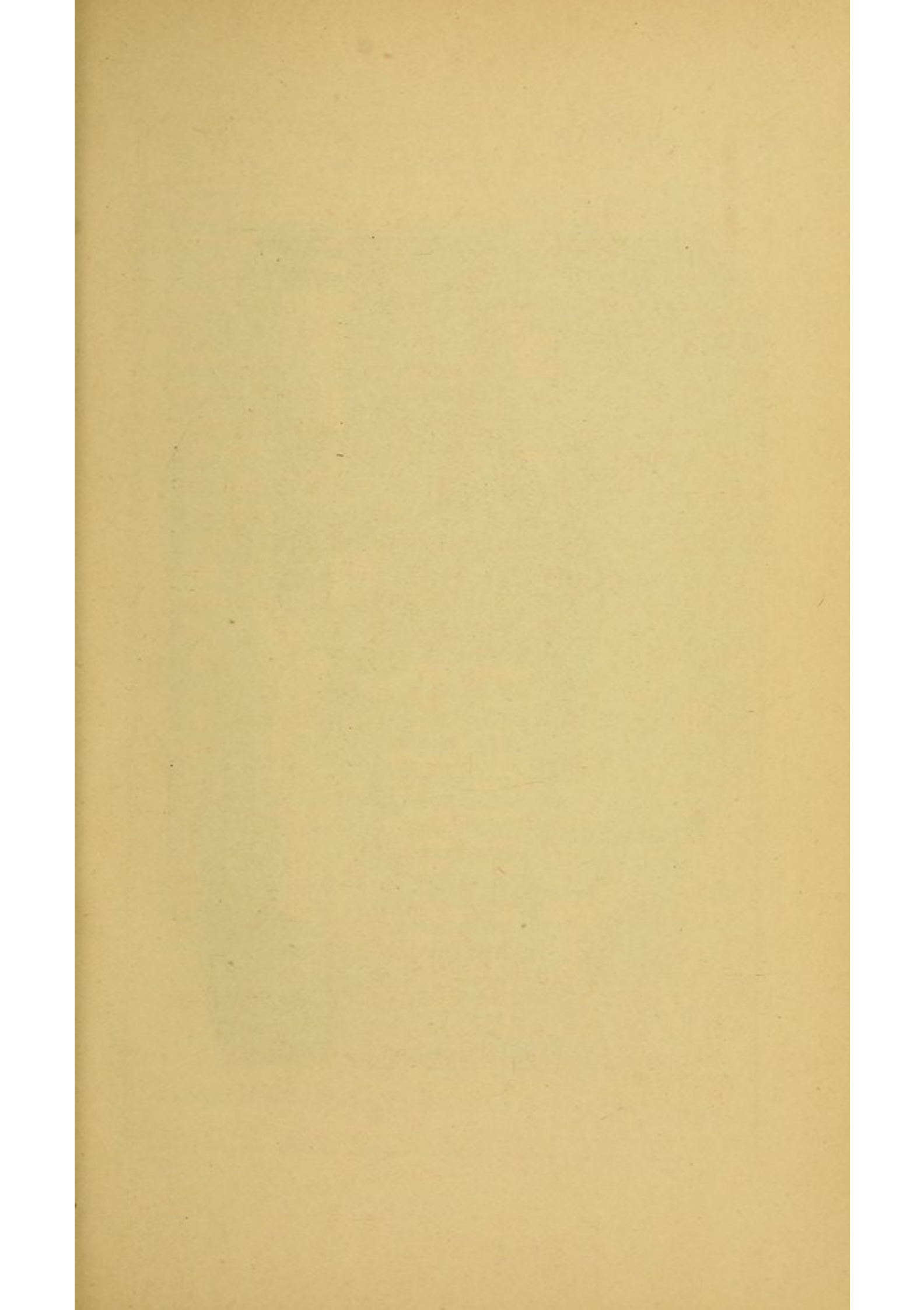
However skilfully combined, therefore, the

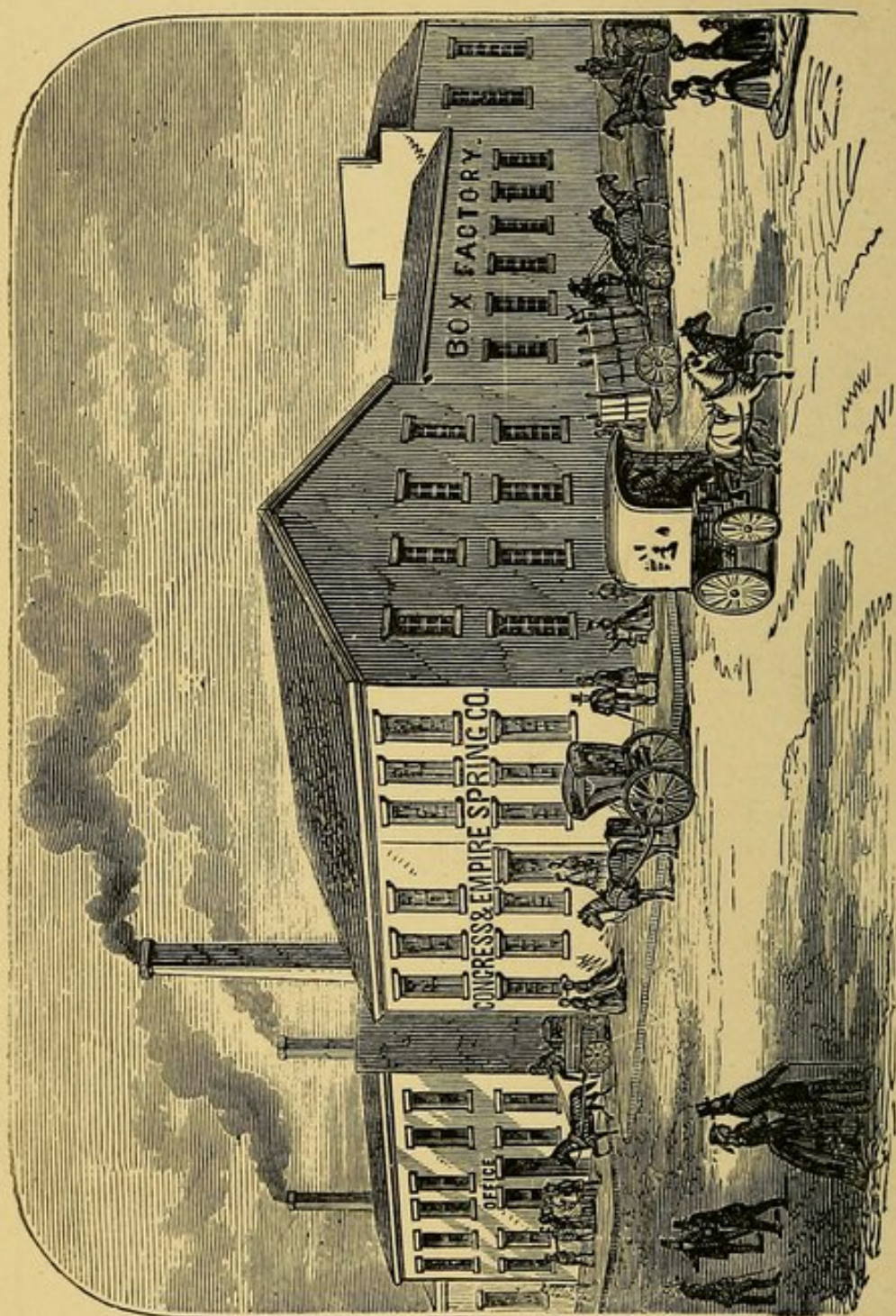
manufactured imitations may be, they are destitute of the characteristic properties which Nature so mysteriously and abundantly supplies in these springs. The editor of the *New York Gazette* gives his readers a timely caution, as follows: "If you don't want to grow old prematurely; if you would keep the teeth in your mouth, the luster in your eyes; if you would not have a used-up digestive apparatus; if you would give a wide berth to Bright's disease, which is making so many bite the dust,—then first and most of all, don't drink the manufactured mineral waters that are offered from numberless fountains. They are sadly injurious, and very many people are drinking them to excess."

"GO TO THE NATURAL SPRINGS," says Dr. BOURDON, a celebrated French physician. "NATURE IS FAR BETTER THAN THE LABORATORY I CANNOT CONDEMN IN TOO STRONG TERMS THE USE OF ARTIFICIAL MINERAL WATERS. THEY NEVER REPLACE THOSE OF THE NATURAL SPRINGS."

PUTTING UP THE WATERS FOR SALE.

PROBABLY not one-fifth part of the waters of these springs which are used medicinally are drank in Saratoga. Multitudes, it is true, flock here during the summer months, but their stay is





CONGRESS SPRING BOTTLING-HOUSE.

usually limited to a few brief weeks—a time, in many cases, too short for these mild, natural remedies to accomplish their perfect work. Thousands of visitors, therefore, find it necessary to continue the use of the waters after leaving the springs, and great numbers of other sufferers from the various ills which flesh is heir to, who are not able to visit Saratoga, still find the waters a source of comfort and health. Thus, while the benefit of these springs is enjoyed, at Saratoga, only by a comparatively limited number of persons, and principally during a brief season, their blessings are carried, by means of the bottled waters, all over the world, and are dispensed to multiplied thousands, without regard to season or climate. A large and important branch of commerce has thus sprung into existence, involving a liberal expenditure of capital, and furnishing employment, directly or indirectly, to a great number of persons.

The bottling and packing is carried on throughout the year, and, except during the height of the visiting season, when so much is consumed at the springs as materially to decrease the supply for bottling, the work is prosecuted night and day. The arrangements for this purpose are the most complete of any thing of the kind in the country, and all the various operations are carried on with a care, skill, and perfection unsurpassed.

In order to increase their facilities, the spring company have erected a glass factory in the village,

where they not only make all the bottles required in their own immense business, but fill large orders for all kinds of bottles for other purposes. Some eighteen or twenty neat cottages in the same part of the village have been erected by the company for the use of their factory operatives.

Each bottle, before being filled, is thoroughly washed and rinsed with both warm and cold water, a stream of each of which is constantly pouring into the tanks before the washers. To detach any impurities that cannot be removed by other means, a small brass chain is dropped into each bottle and thoroughly shaken about. The substitution of this simple and effective method of cleansing for the use of shot or pebbles is an improvement which might well be adopted by every housewife.

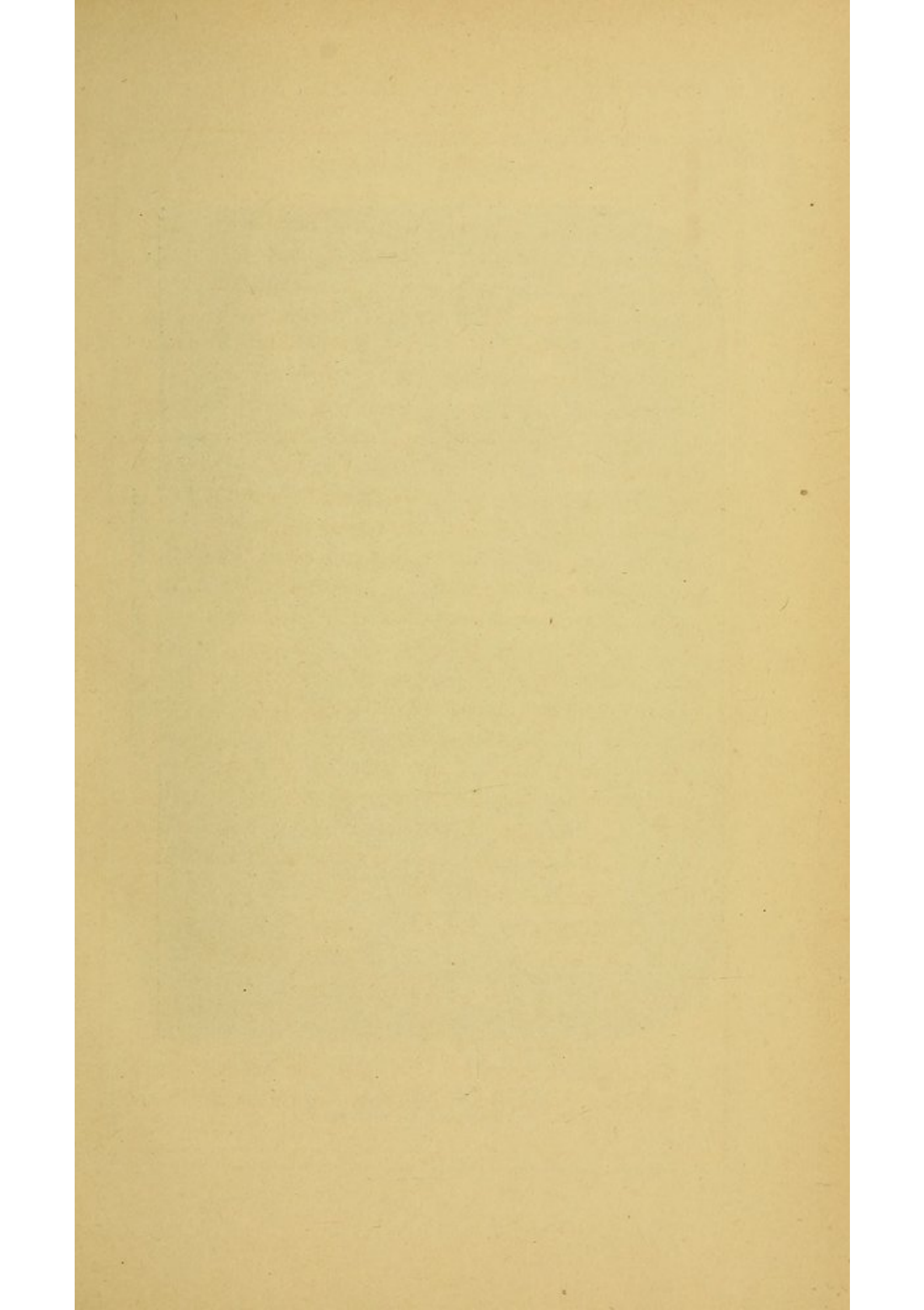
The corks are either manufactured or imported expressly for this company, none but the finest quality being used. For the protection of the public against manufactured, inferior, or spurious mineral waters, each cork is distinctly branded on the side with the name of the water and the initials of the company, thus:—

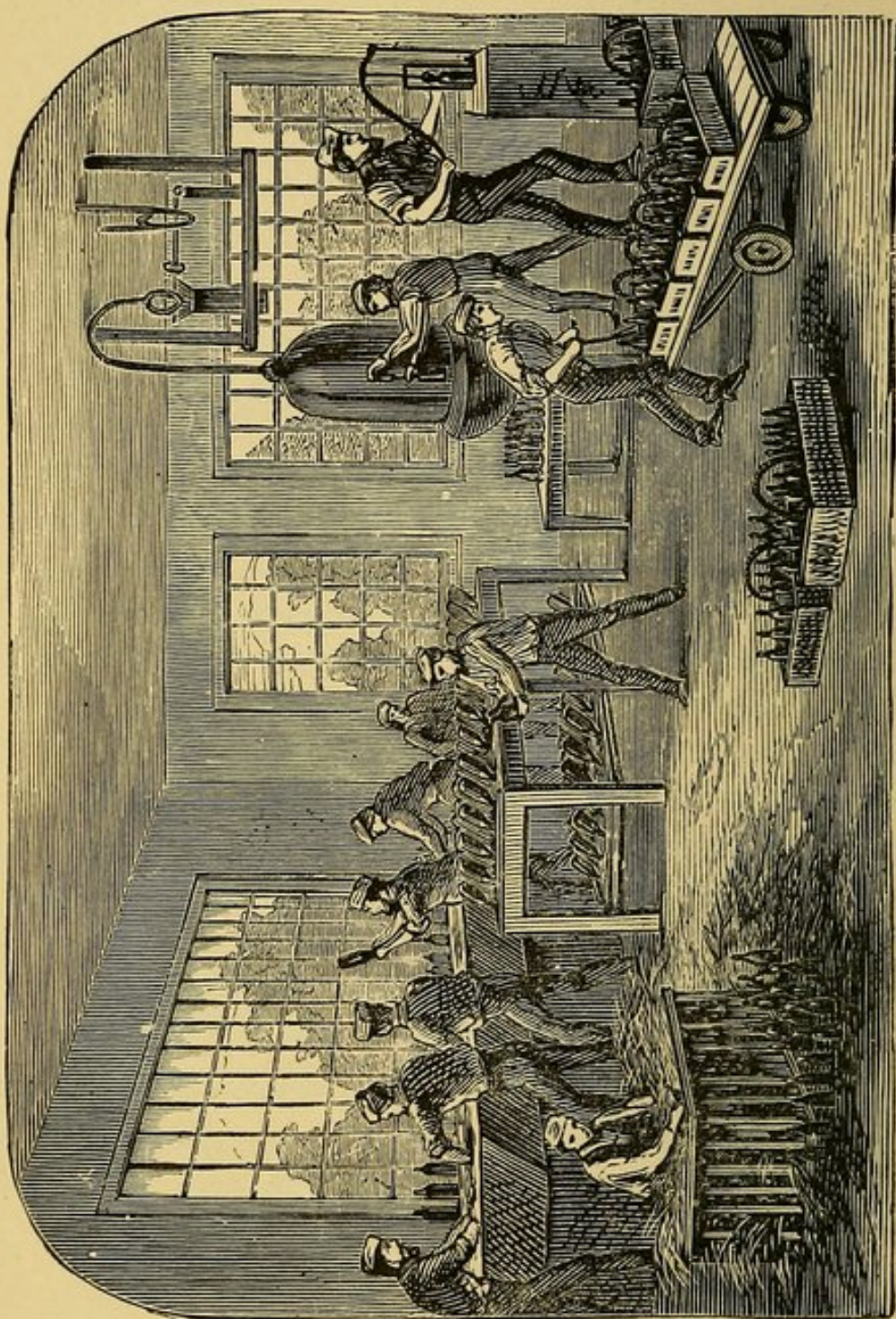
CONGRESS WATER,
C. & E. S. Co.

EMPIRE WATER
C. & E. S. Co.

COLUMBIAN WATER,
C. & E. S. Co.

The brands used for this purpose are set into a small table, their lettered faces being nearly level





WASHING AND FILLING.

with its surface. They are kept hot by a jet of gas turned on them from below, and the corks receive their brand by being rolled over the heated types—an expert boy performing the simple operation with great rapidity.

The wire used for securing the corks is manufactured expressly for the purpose from the finest quality of copper, some 2,000 lbs. being required annually.


The packing-boxes are made on the premises, and are of uniform shape and size, each box holding two dozen quart, or four dozen pint bottles. Each box receives the peculiar brand of the company, put on with stencil plates. Purchasers should be familiar with these brands, as well as with those upon the corks, and should carefully observe them when buying the waters.

Each box of Congress Water is branded on *the end* thus :

**THE
CORKS
OF ALL GENUINE
CONGRESS WATER
ARE BRANDED THUS
CONGRESS WATER
C.&E.S.CO**

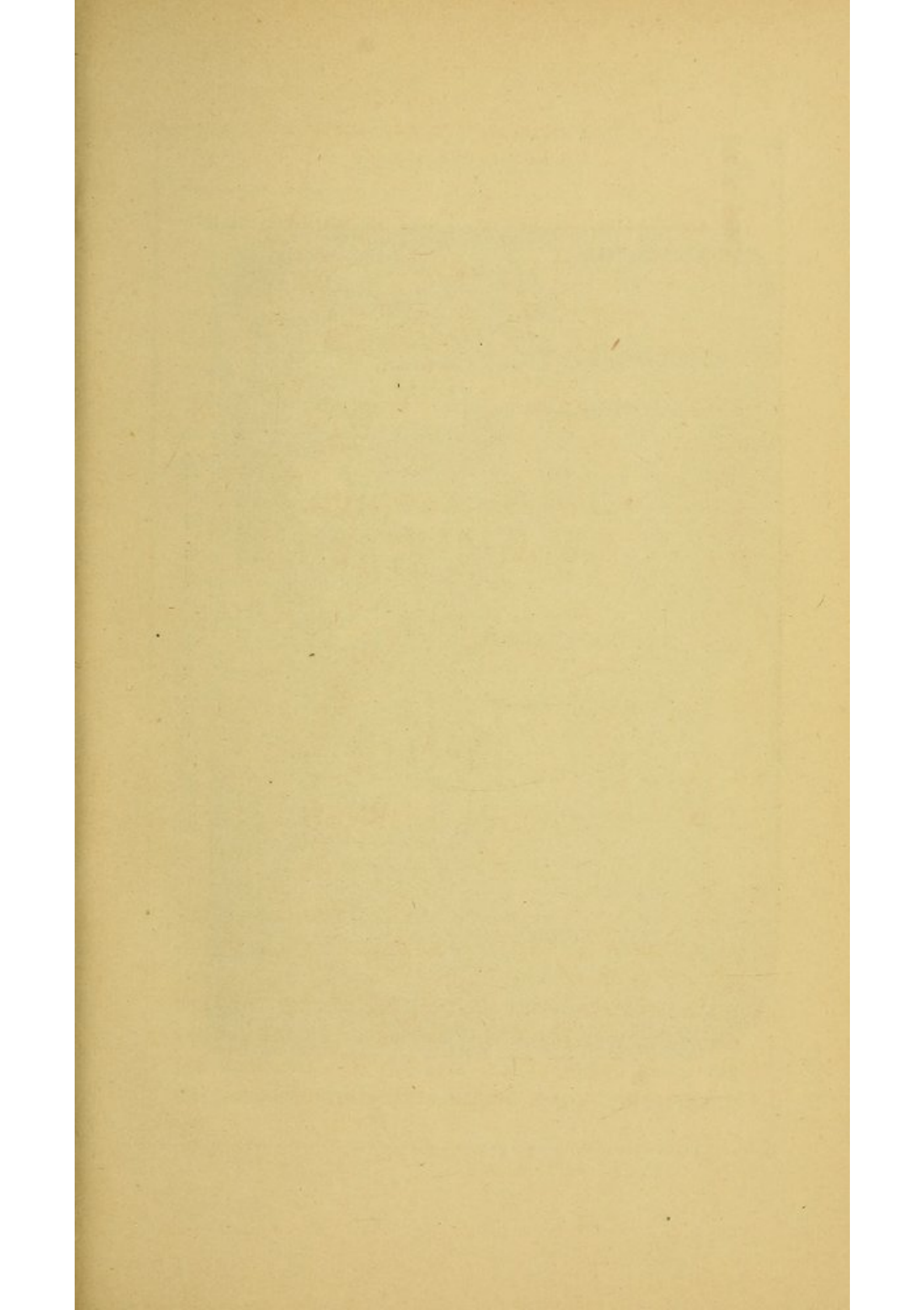
Each box of Congress Water is branded on *the top* thus:

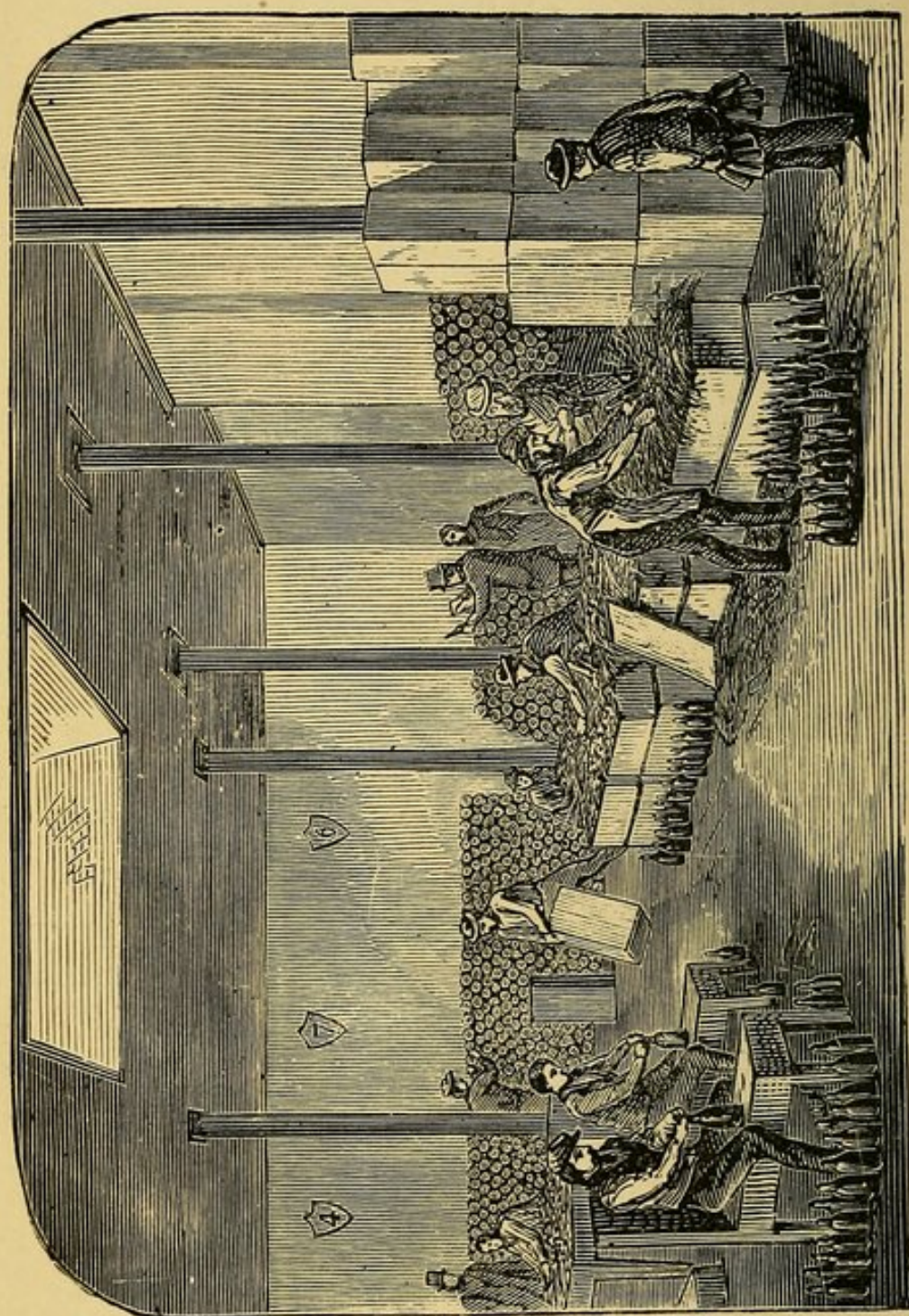
GLASS
WITH CARE
CONGRESS SPRING
WATER

CONGRESS & EMPIRE SPRING CO.

SARATOGA SPRINGS
N.Y.

Empire and Columbian Water boxes are similarly branded, the name, of course, being appropriately changed in each case.

The water is pumped from the spring through pure block tin pipes into a receiver, holding from five to six gallons, from which it is drawn into the bottles; the pipes, pump, and receiver being so





PACKING-ROOM, CONGRESS SPRING.

constructed as to prevent any escape of the natural gases. The corks, after being soaked in warm water until they become so soft as to be easily compressed, are driven into the bottles by machinery, the process reducing their size before entering the bottles about one-third. It requires a strong bottle to stand the pressure of their expansion after being driven in, and even strong men sometimes find it difficult to pull them out. A single workman will fill and cork from fifteen to twenty dozen bottles per hour.

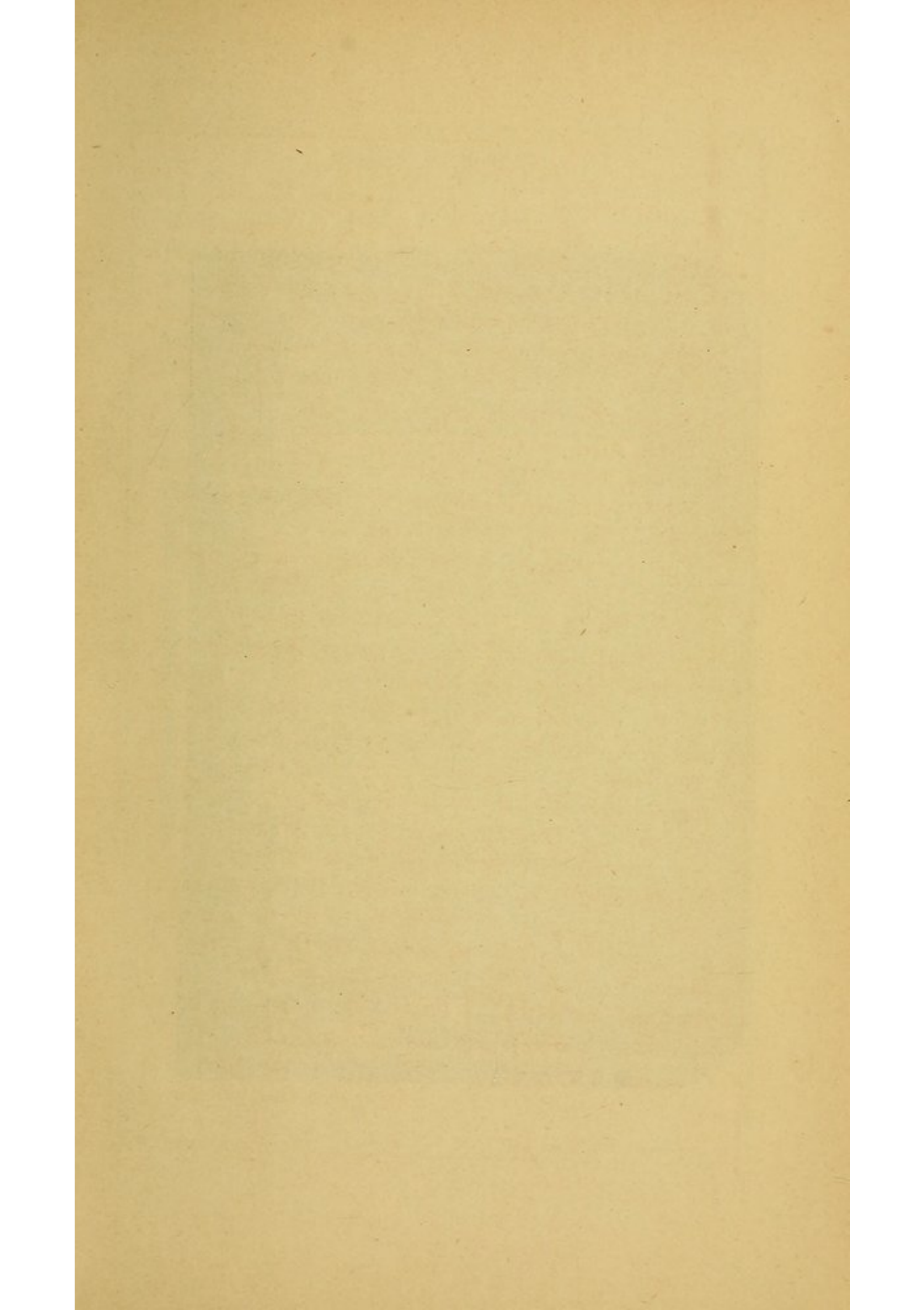
After being filled and corked, the bottles are laid upon their sides in large bins, holding from one hundred and fifty to two hundred dozen each, where they are allowed to remain four or five days, or longer, to test the strength of the bottles by the expansion of the gas, and also to detect any corks that may be leaky or otherwise imperfect. The breakage, while in this situation, is about five per cent. of the whole number filled, and sometimes more. The bottles frequently burst with a sharp report, like the firing of a pistol or the cracking of champagne bottles. Every bottle that breaks, either while in the testing bins, or in any of the various processes of washing, filling, or packing, is registered in the office of the company, by means of wires going from different parts of the establishment, and centering there in an apparatus arranged for the purpose. All leaky corks are drawn, and the bottles refilled with water direct

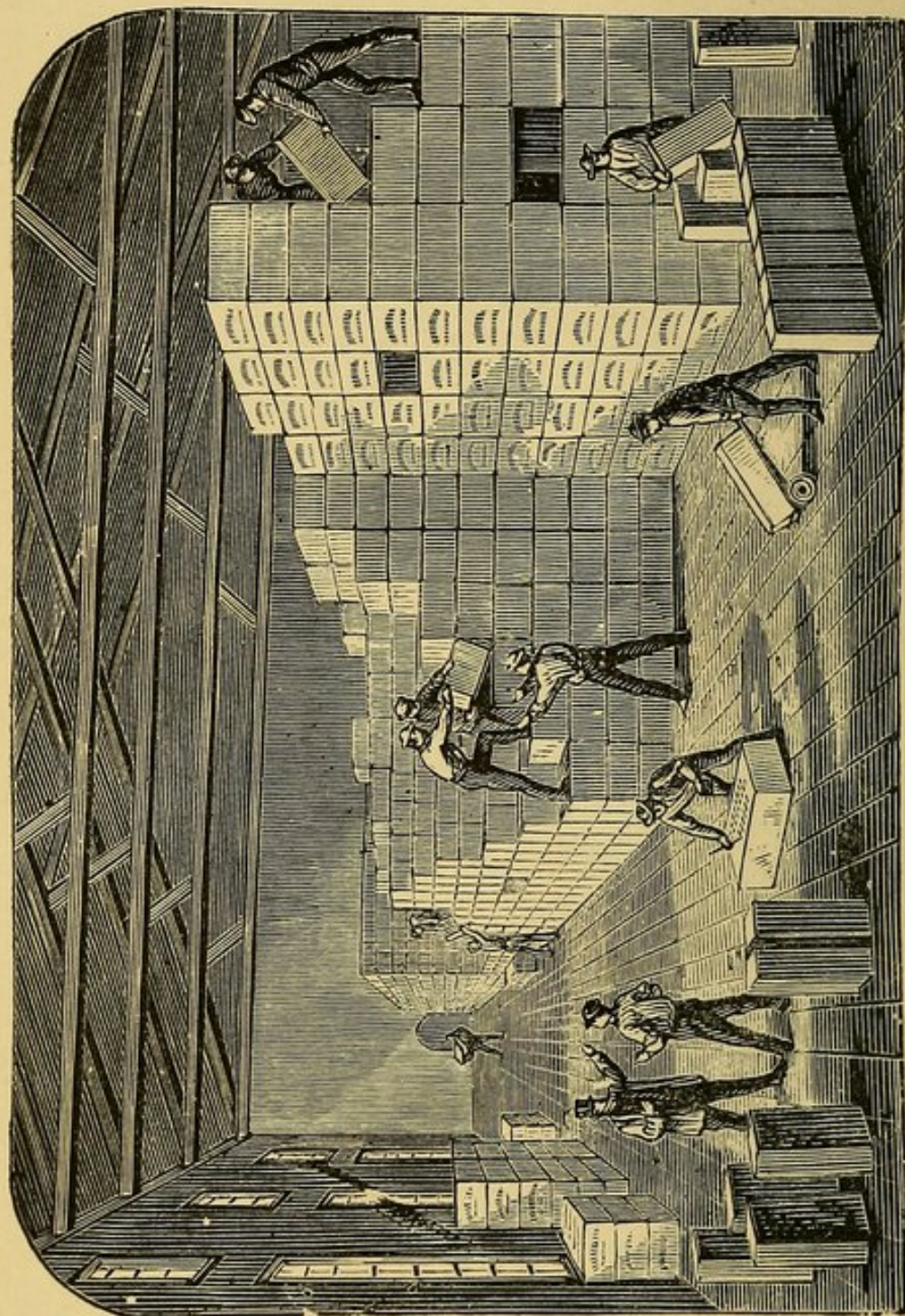
from the spring. While all these precautions add largely to the expense of putting up the waters, they render a leaky, and consequently a bad bottle of Congress, Empire, or Columbian Water almost impossible, and they also render the breakage of bottles in subsequent handling a matter of rare occurrence.

When the bottles and corks have been thus thoroughly tested, the corks are securely wired, this operation being performed with great rapidity by employ  s long trained to the work.

The next process is the packing in cases, which is also done with great care and remarkable dexterity. The neck of each bottle is firmly wound with clean new straw, and the bottles are placed on their sides in tiers of equal number, a parting strip of straw being laid between each bottle and its neighbor on either side. A layer of straw is also placed between the tiers of bottles, as well as at the top and bottom of the box. When the box is filled, the packer walks over the bottles, for the double purpose of settling them properly in their places, and as a further test of their strength, before the lid is put in its place and nailed down. If a bottle gives way under the weight of the packer, of course the whole box is emptied, and not again repacked until it is thoroughly dry, as must be all the straw which is used for packing.

As immense quantities of these waters are put up during the winter months, when the demand is





STORE-ROOM, CONGRESS SPRING

comparatively small, and when the weather is usually too cold for their safe transportation, large storage capacity is required to secure and protect the stock on hand. Some idea of the room required for this purpose may be formed from the fact that the buildings used exclusively for storing water in boxes, at the Congress Spring alone, have an area of over twelve thousand square feet on the ground floor, with capacity for safely keeping at a proper temperature through the winter months more than twenty thousand boxes of the water.

The Company receive visitors at their bottling houses with great courtesy, and a pleasant hour may be spent in examining their establishment.



MAN AND CONGRESS WATER.

[From "*The Saratogian*," 1870.]

A CHEMIST and physiologist is writing a series of articles on the Laws of Health, for the *Cohoes Cataract*. We extract the following, which demonstrates how nearly the constituent parts of man and Congress Water agree. This may be the reason why our mineral waters are so beneficial in restoring persons to health—they restore the equilibrium among the constituent elements :

"Here is a man who weighs 140 pounds.—I select him especially because he is convenient as a water-meter. Stand him up and let us look at him. Physiologists tell us that this man is made up of 100 pounds of water and 40 pounds of solids (strictly 101 and 39). With all his firmness and apparent strength, and though he may look as dry and tanned as leather, and as tough, he is 70 per cent. water. Burn him, and all you will get is a few ashes, the rest will have consumed and evaporated. Of the 40 pounds of solids, about one-half (say 20 pounds) being carbon, will burn, but nearly 30 of the 40 will actually disappear, and what you will have left will be about 10 pounds of bones, or bone-ashes ; eight pounds of these bones will be found to be the phosphate of lime, one pound the carbonate of lime, and a little over 5 ounces the phosphate of magnesia. There are also, from other

parts of the body, about 5 ounces phosphate of potash, and certain small portions (counted in grains) amounting from $\frac{1}{4}$ of an ounce to 1 and 2 ounces of the following mineral constituents, to wit: Phosphate of soda, chloride of sodium, chloride of potassium, oxide of iron, carbonate of soda, sulphate of potash.

“So if we take out the fibrine and omit the lime (which is in excess), this man is about equal to a bottle of Congress Water, with only some slight differences in the proportions of ingredients. Seventy-two (72) per cent. of him is water, and the rest you may reduce to oxygen and its compounds, and the above-mentioned minerals.”

CONGRESS SPRING IN THE OLDEN TIME.

THE “View of Congress Spring in 1816,” which forms the frontispiece of this book, is a reduced copy on wood of a curious and rare steel engraving, printed in 1817 in Dr. William Meade’s “Experimental Enquiry into the Chemical Properties and Medicinal Qualities of the Principal Mineral Waters of Ballston and Saratoga.” The author of this work—an elaborate volume of 200 pages octavo—was an eminent physician and chemist of Philadelphia, and a member of various learned and philosophical societies. He had been

preceded in this field of research by Dr. Valentine Seaman, of New York, a very distinguished physician of that day, who had published a work in 1793 and 1809, entitled, "A Dissertation on the Mineral Waters of Saratoga, including an Account of the Waters of Ballston."

At the date of Dr. Seaman's later publication, Saratoga had already eclipsed Ballston in the fame of its mineral waters; but the latter, having been for a time the fashionable resort, still offered the better accommodation for visitors. The only public house then open in Saratoga was a building of seventy feet in length, erected by Gideon Putnam in 1802, on the site of Union Hall—now the Grand Union—until within a recent date owned and occupied by his descendants. Putnam's sign, a rudely-painted representation of "Putnam and the Wolf," is still preserved as a curious relic by one of his family. The Congress Hall was begun in 1811, by the same hardy and resolute pioneer, and, at the date of Dr. Meade's publication, was a large and fashionable hotel.

Dr. John H. Steel published his first treatise on "The Mineral Waters of Saratoga and Ballston" in 1817, a second edition of which appeared in 1819, and in 1831-2 appeared his enlarged work on the same subject.

It is a noteworthy circumstance that the attention of the eminent scientific men above named was thus early directed to these waters. Their experi-

ments, the methods and results of which are carefully recorded, furnish ample confirmation of the statement made in the preceding pages, that "there has been no appreciable change in the chemical properties or medicinal qualities of these waters," and that "they retain their original character in a remarkable manner." It may be noted also that Dr. Steele, in his later work (1832), states particularly of Congress Spring that "the water of this fountain retains its original properties, or its medicinal qualities, the same at least as they were twenty years ago;" and to this must be added the recent statement of Prof. C. F. Chandler, one of the leading chemists of our day, who certifies that a comparison of his own analysis (recently made and published herewith) "with the analysis made by Dr. John H. Steel in 1832, proves that the Congress Water still retains its original strength and all the virtues which established its well-merited reputation."

DIRECTIONS FOR USE.

[*From Dearborn's "Saratoga, and How to See It."*]

It is hardly possible to lay down all rules for any of the springs, there is so much individuality in each case, so much that requires special attention, and the special direction of a physician, that in almost any case advice should be obtained from some of the physicians who devote particular attention to the waters.

The standard rule is, that when drinking the waters for cathartic purposes they should be taken before breakfast in the morning. In many cases it is also advisable to drink one or two glasses at night before retiring, followed by a larger quantity in the morning. Even this rule is not always the best for every one. Some find it better to drink the water an hour before breakfast, others only a few moments.

Some people have stomachs of so cold and torpid a habit that they need the most active and exciting remedies. Others have such exquisitely irritable nerves that they need anodyne medicines if they attempt to drink what are called the "stronger" waters.* The bowels of these people

* *It is a fact of daily experience* that a free indulgence in the crude mineral waters of recent discovery is often attended or followed by internal soreness or discomfort, indicating disturbance of the stomach, intestines, kidneys, bladder, etc. Visitors suffer in this manner without suspecting the cause of their troubles. Such disorders constitute a new class of ailments, and may be entirely avoided

may be thrown into great pain and distension by a few tumblers taken in the morning at some of the springs. They are foolish if they conclude at once that no Saratoga water will help them. Gradual loss of appetite, sense of fullness and oppression, feverishness and sometimes cholera morbus, indicate that the waters need to be suspended for a time, or a less exciting spring should be selected.

Do not mix the drinks.

A moderate use of the waters will be found most beneficial.

The diet should be liberal, but an abundance of vegetables should be avoided, and only those which are perfectly fresh should be used.

As an *alterative*, the waters should be drank in small quantities during the day.

The IRON waters are liable to cause headache when taken before breakfast. They may be used with benefit before, or after, dinner or tea. From one-half to one glass is all that is necessary.

The DIURETIC waters should be drank before meals, and at night, and should not be followed by warm drinks. Walking and other exercise increases the diuretic effect.

Raising the temperature of the water by placing a bottle of it in boiling water, makes it more efficacious as a cathartic. It is also said to precipitate the iron.

by using only such waters as have been known and used for the past half century with entire comfort and safety.

The Principal Constituents,

which give character to the Cathartic Springs, are bicarbonates of magnesia and soda, and chloride of sodium; to the tonic waters, bicarbonate of iron; the alterative waters, iodide of sodium, chlorides of potassium and sodium, etc.; the diuretic waters, bicarbonate of lithia and protoxide of hydrogen.

CARBONIC ACID, the spirit of the springs, not only contributes to the solubility of the salts contained in the waters, but also renders them more palatable and more agreeable to the stomach. It is the perfect solution of the ingredients which renders the water valuable.

BICARBONATE OF MAGNESIA is a mild laxative and a good palliative in acid or sour stomach, heartburn and sick headache, especially if the person is constipated.

BICARBONATE OF SODA first diminishes the secretions and subsequently increases them, the urine being most susceptible to its influence.

CARBONATE OF IRON increases the number of red corpuscles in the blood, stimulates the appetite and excites the heart's action. It has a tendency to constipate.

CHLORIDE OF SODIUM forms part of every tissue of the body except, perhaps, the enamel of the teeth. It increases the solubility of the albumen of the blood and prevents a too rapid destruction of the red corpuscles. It increases the flow of the gastric juice and bile, promotes the interchange of the fluids in the body, and augments the quantity of urine secreted.

The other important ingredients are bicarbonate of lithia, the iodides and bromides, the bicarbonate of lime, etc. The great problem among physicians is how to cause their medicines to be absorbed when taken into the system. Many of the ingredients of mineral springs would be almost inert in a state of powder, but *when held in solution in mineral water* are admitted to the inner coats of all the blood vessels, and are powerful alteratives of the entire system.

Analysis of Congress Spring Water.

By Prof. C. F. CHANDLER.

The sample of CONGRESS SPRING WATER, taken by me from the Spring, contains in one United States gallon of 231 cubic inches:

Chloride of Sodium - - - - -	400.444	grains.
Chloride of Potassium - - - - -	8.049	"
Bicarbonate of Magnesia - - - - -	121.757	"
Bicarbonate of Lime - - - - -	143.399	"
Bicarbonate of Lithia - - - - -	4.761	"
Bicarbonate of Soda - - - - -	10.775	"
Bicarbonate of Baryta - - - - -	0.928	"
Bicarbonate of Iron - - - - -	0.340	"
Bicarbonate of Strontia - - - - -	a trace.	
Bromide of Sodium - - - - -	8.559	"
Iodide of Sodium - - - - -	0.138	"
Sulphate of Potassa - - - - -	0.889	"
Phosphate of Soda - - - - -	0.016	"
Silica - - - - -	0.840	"
Fluoride of Calcium } Biborate of Soda, } Alumina, }	each a trace.	
Total - - - - -	700.895	grains.
Carbonic Acid Gas - - - - -	392.289	cubic inches.

REMARKS.

A comparison of the above analysis with the analysis made by Dr. JOHN H. STEEL, in 1832, proves that the Congress Water still retains its original strength, and all the virtues which established its well-merited reputation.

Its superior excellence is due to the fact that it contains, in the most desirable proportions, those substances which produce its agreeable flavor and satisfactory medicinal effects—neither holding them in excess nor lacking any constituent to be desired in this class of waters.

As a Cathartic water, its almost entire freedom from iron should recommend it above all others, many of which contain so much of this ingredient as to seriously impair their usefulness.

C. F. CHANDLER, Ph. D.,

Prof. of Analytical and Applied Chemistry.

SCHOOL OF MINES, COLUMBIA COLLEGE,

NEW YORK, August 17th, 1871.

Analysis of Empire Spring Water.

By Prof. C. F. CHANDLER.

The sample of EMPIRE SPRING WATER, taken by me from the Spring at Saratoga, contains, in one United States gallon of 231 cubic inches :

Chloride of Sodium	- - - - -	506.630 grains.
Chloride of Potassium	- - - - -	4.292 "
Bicarbonate of Magnesia	- - - - -	42.953 "
Bicarbonate of Lime	- - - - -	109.656 "
Bicarbonate of Lithia	- - - - -	2.080 "
Bicarbonate of Soda	- - - - -	9.022 "
Bicarbonate of Baryta	- - - - -	0.075 "
Bicarbonate of Iron	- - - - -	0.793 "
Bicarbonate of Strontia	- - - - -	a trace.
Bromide of Sodium	- - - - -	0.266 "
Iodide of Sodium	- - - - -	0.006 "
Sulphate of Potassa	- - - - -	2.769 "
Phosphate of Soda	- - - - -	0.023 "
Silica	- - - - -	1.145 "
Alumina	- - - - -	0.418 "
Fluoride of Calcium,	} - - - - -	each a trace.
Biborate of Soda;		
Organic Matter,		
Total	- - - - -	680.436 grains.
Carbonic Acid	- - - - -	344.669 cubic inches.

Respectfully your obedient servant,

C. F. CHANDLER, Ph. D., F. C. S.,

Prof. of Analytical and Applied Chemistry.

SCHOOL OF MINES, COLUMBIA COLLEGE,

NEW YORK, August 14th, 1872.

Analysis of Columbian Water.

By Prof. E. EMMONS.

The specific gravity of this water is 1007.3; its solid and gaseous contents as follows:

Chloride of Sodium	- - - - -	267.00 grains.
Bicarbonate of Soda	- - - - -	15.40 "
Bicarbonate of Magnesia	- - - - -	46.71 "
Hydriodate of Soda	- - - - -	2.56 "
Carbonate of Lime	- - - - -	68.00 "
Carbonate of Iron	- - - - -	5.58 "
Silex	- - - - -	2.05 "
Hydro-Bromate of Potash	- - - - -	scarcely a trace.
Solid contents in a gallon	- - - - -	407.30 grains.
Carbonic Acid Gas	- - - - -	272.06 inches.
Atmospheric Air	- - - - -	4.50 "
		276.56 inches.


FACTS TO BE REMEMBERED.

Mineral waters which are drawn from wood or metal are found to deteriorate rapidly, and to become impregnated with injurious properties ; a fact well known to Chemists and Physicians. It should also be borne in mind that the waters from the various springs at Saratoga and vicinity differ widely in character and effects ; some being cathartic, and others merely tonic ; some being extremely saline, and therefore said to be "strong," but by no means excelling in medicinal virtue, and in many instances proving highly injurious.

Purchasers of Congress, Empire and Columbian Waters should buy the bottled waters only.

NONE GENUINE SOLD ON DRAUGHT.

In consequence of the numerous inferior and imitation waters fraudulently imposed upon the public as Congress Water, particular attention is called to our well-known Brands upon Corks and Boxes, *fac-similes* of which are to be found in the foregoing pages.

 *Every genuine bottle of Congress Water has a large "C" raised upon the glass.*

CONGRESS & EMPIRE SPRING CO.,
Saratoga Springs, N. Y., and
94 Chambers St., New York City.

IMPORTANT NOTICE.

The Undersigned have opened a

GENERAL MINERAL WATER DEPOT,

For the Sale of

NATURAL MINERAL WATERS ONLY!

and have on hand, fresh from the Springs, the

Congress, Empire, Columbian,

And other SARATOGA WATERS; as also
a general assortment of

AMERICAN AND FOREIGN MINERAL WATERS,
which are

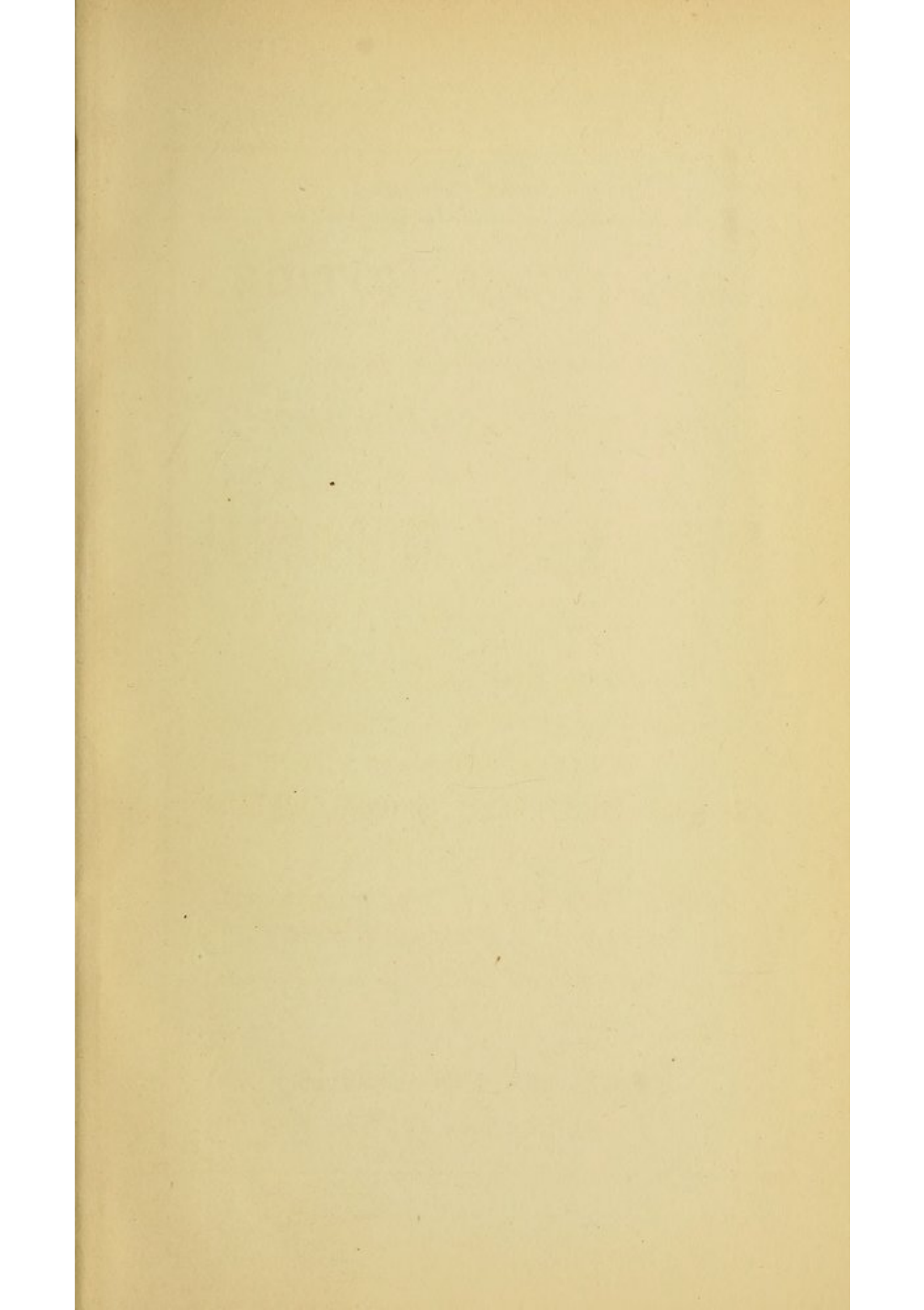
Delivered FREE in New York, Brooklyn, and
Jersey City, at Proprietors' Prices.

Orders by Mail will receive prompt attention.

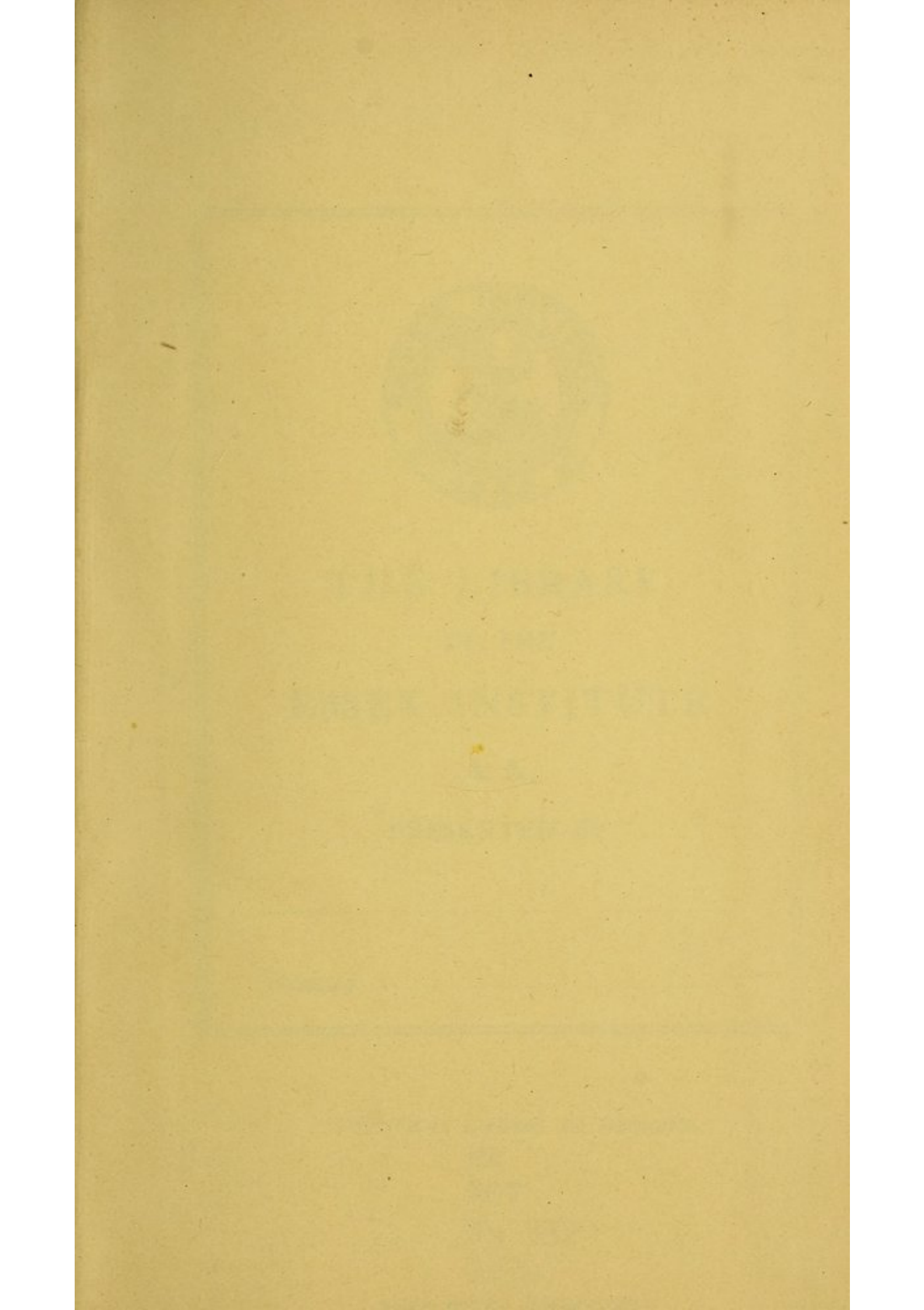
Address,

CONGRESS AND EMPIRE SPRING CO.,

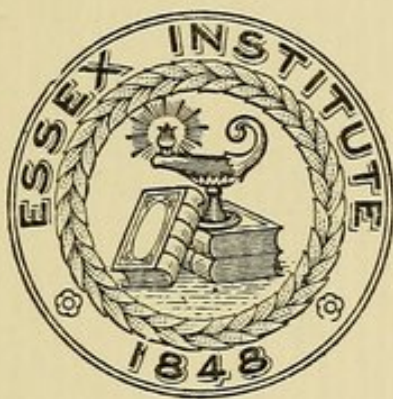
94 Chambers St., New York City.



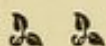








THE LIBRARY
OF THE
ESSEX INSTITUTE



PRESENTED BY

Received _____

COUNTWAY LIBRARY OF MEDICINE

RA

807

N6 S32

1874

