

urethral syringe, then solutions of chloride of zinc, 3, 2 and 1 gr. to the oz., diminishing by a grain each day. I have succeeded in easily curing cases of years' duration by this method of treatment. The idea of thus scraping the urethra may seem savage, but as a matter of actual fact, it is not at all severe.

I bespeak for this method a careful trial by the profession, with the belief that it will mark a new era in the cure of this obstinate disease, now well known to be fraught with danger to innocent women.

I have sent my original instrument to Messrs. Chas. Truax, Greene & Co., who have duplicated it in two sizes, placing it, with the small spoon curette, the deep urethral and cone point syringe, in a convenient case.

Portland, Ore., April 1, 1892.

**TWO CASES OF DYSENTERY, TREATED BY THE LONG CONTINUED USE OF BLUE MASS, WITH PERMANENT BENEFIT TO HEALTH RESULTING THEREFROM.**

BY EDWARD ANDERSON, M.D.,  
OF ROCKVILLE, MD.

During the summer of 1889, this section was visited by an epidemic of dysentery, with which the physicians here, myself among the number, were unable to cope. I tried everything recommended in works on practice, but was not satisfied with the result. I knew that my grandfather, a hundred years ago, used blue mass and opium in the treatment of this disease, but how to use it, I did not know. After repeated experiments, I found the proper thing to do was to combine 1/2 gr. of opium with 2 grs. of blue mass in a pill, and give one pill every two hours until the patient recovered.

On July 1, 1889, I was called upon to treat a lady, 56 years of age, all of whose family had dysentery, one son 20 years of age, having died a few days previously. She had had the disease ten days, and been treated by another physician with camphor and opium, but grew worse all the time. I fell heir to the case on account of the attendant's being attacked by the disease. I treated this case according to the above described plan for ten days, with gradual improvement, when I became appalled at the enormous amount of mercury taken, and stopped for awhile; but the patient immediately grew worse, and I recommenced the same treatment, and kept it up, lengthening the intervals between the doses as she improved, until October 1, when she was quite well. This lady's family history was good, every member except herself being robust, but she was thin enough to be remarked upon. Now she has gained flesh, looks vigorous, and one would scarcely recognize her for the same person.

The second case was that of a boy of 12, whom I had been treating several years for marasmus; he was attacked with dysentery last fall, and I treated him as I had the first case, taking about two weeks to complete the cure. Immediately after this attack, his health began to improve, and now he is one of the most robust boys in the neighborhood.

These were the only two cases that resisted this treatment for any length of time, all the others having recovered in from one to six days.

After the large experience I have had with dysen-

tery, I do not believe it possible to salivate any one whilst suffering with the disease.

The most eminent pathologist in our State says, that the bacillus coli communis is always present in the human intestine, but is more abundant during an attack of dysentery, and that it is the dysentery germ. May not these two patients have been suffering all their lives from a superabundance of these germs, and only been freed from them by the protracted use of mercury?

**A NEW SPIROMETER.**

BY CHAS. DENISON, A.M., M.D.,  
OF DENVER, COLORADO.

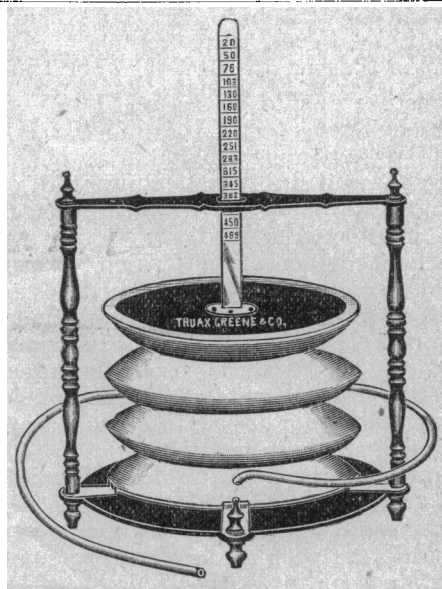
The superiority of this instrument, over any other spirometer in use, rests in its simplicity of construction. It does not depend upon water which will evaporate, or metal which will corrode, as is the case with the Hutchinson spirometer; nor does it require a certain amount of resistance to be overcome, as in elastic measurers. With Marsh's rubber spirometer this resistance is found by actual measurement to be equivalent to twenty millimeters of mercury, before any test of the expired breath can be recorded.

This new spirometer is capable of giving in cubic inches of air, the exact measurement of the vital capacity of the most delicate child or woman or of the strongest man. It is large enough to contain 6 small or 2 large breaths, so that an average record may thus be obtained if desired. If rightly made it is as nearly perfect as such a simple thing can be.

**STANDARD VITAL CAPACITY TABLE.**

Computed from 5,000 observations (Hutchinson) in healthy persons, standing, while making a full expiration into the spirometer, after a complete inspiration.

HEIGHT.	MALES.	FEMALES.	HEIGHT.	MALES.	FEMALES.
ft. in.	cu. in.	cu. in.	ft. in.	cu. in.	cu. in.
4 7	126	88	5 5	206	168
4 9	142	104	5 6	214	176
4 11	158	120	5 7	222	184
5 0	166	128	5 8	230	192
5 1	174	136	5 9	238	200
5 2	182	144	5 10	246	208
5 3	190	152	5 11	254	216
5 4	198	160	6 12	262	224



This illustration shows the simplicity of construction. The manometer, which is here attached, should be used separately. A spirometer gives the vital

capacity, viz., the full number of cubic inches possible to be expelled from the lungs after a forced inspiration, while the manometer records the elastic tension which the air cells will stand under a forced expulsion of air from the chest, as compared with the average of a healthy man.

For one in health, the record at which the column of mercury can be held is about 100 M.M. of mercury.

This spirometer is purposely made to weigh very little, the light top of a cylinder, into which the air is breathed through the tube, being connected to the base by delicate impervious cloth in one piece. The size of this cylinder is so arranged that each rise (of the top) of one inch represents 100 cubic inches of air contained therein, and this record is plainly shown by the movement of the recording rod attached to the top of the cylinder.

In the address of the President of the American Climatological Association in September, 1890, this spirometer was brought to notice in connection with a study of the different "air pressures within the chest, due to disease." On that occasion and since, I have demonstrated the lack of a just appreciation among physicians of the worth of the spirometer.

In my report on the tuberculin treatment of consumption, made to the Colorado State Medical Society in June, 1891, I formulated some rules by which a proper ventilation of lungs can be known to exist, in order that that mode of treatment may be successfully combined with the *high altitude* cure of consumption.

In brief, nature's method of attempting a cure of lung tuberculosis by the healing means of fibrous deposit, may and often does so shut up an affected lung as to preclude its proper ventilation, which is a necessary prerequisite to the use of "Koch's" lymph. While the patient's record with the manometer approximately shows his respiratory vigor, and the amount and strength of this new elastic tissue, it is the spirometric reading combined with the bilateral measurements of the chest, which will give the valuable information desired, viz., when and how far this process of shrinkage or hardening has been established.

*If the normal spirometric record for the patient's height is only one half reached, and the movements of the two sides are as one to two, then (without some compensation from the good lung) the ventilation of the affected lung must be about nil. It is practically as bad as though there were no expansion at all of the affected side, which would surely indicate that all of the one half reduced spirometric record in this case, came from the unaffected lung.*

By "without compensation" [which, however, is probably a false supposition], is assumed to mean that the unaffected lung does its full share as in health, viz., the one half of the normal. With compensatory help from the good lung, however, the affected lung could be said to be doing from a little, up to one third, of one lung's share, or one-sixth of what the two lungs together ought to do in health.

Assuming that the above table of Hutchinson's is correct, and making the little allowance needed for the slight natural differences for the use of the two lungs in different people, and the movements of the diaphragm in respiration, then it can be asserted with much accuracy that lesser variations in the above measurements, indicate proportionately less want of ventilation in the affected lung.

To obtain accurate bilateral measurements for comparison with the spirometric record, a good way is to mark on the patient's chest, the middle line of the sternum, and then holding, or having some one else hold the steel tape measure against the spine of the opposite vertebra, use this line as a guide in determining the difference between a forced inspiration and complete expiration on the two sides.

The above rule is illustrated thiswise: If the spirometric record of a given individual should be 260 cubic inches in health, and it is in fact one half that, because of a contracted lung, and the movement of the weakest lung is one-fourth as compared with three-fourths of an inch on the other side, the better of the two lungs is not only not doing just exactly its normal share, but it is probably compensating for the disabled lung, the work of the two, being somewhere between all on the good side (130 cubic inches), and three-fourths there and one-fourth of this 130 on the diseased side. If the spirometric record (say 240 cubic inches) was nearly normal, as in some very favorable cases, and the bilateral movement bore the same relation to each other as above, then the compensatory work, the unaffected lung is doing for the disabled one, would be represented by fifty or more cubic inches, because that is the difference between the normal half, 130 cubic inches, and the three-fourths, 130 cubic inches, justly attributed to this lung.

Thus every inequality in these bilateral chest movements, when compared with the spirometric record of an individual, is an indication of lessened lung movement, which should be explained by the physical diagnosis. The spirometer may not indicate the disease but its use is so important, that the physical examination must make clear the spirometric record of a given patient, or that examination is untrustworthy. How important then that every physician, when examining a chronic lung case, should know what the vital capacity of his patient is, that he may be satisfied himself that his conclusions are correct, as well as that he may do his patient full justice.

Authors, by their lack of appreciation of the mechanical conditions within the chest made known by the spirometer, or by ignoring the subject altogether, have greatly injured a useful instrument, as well as the profession they would serve.

I have intrusted this instrument to Messrs. C. Truax & Co., of Chicago, to perfect and supply to the profession, and I have tried to protect them as far as possible in carrying out this work.

## SYMPTOMATOLOGY AND TREATMENT OF SUMMER COMPLAINT.

Lecture delivered at the Fourth Special Course of the Chicago Polyclinic.  
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The most prominent symptoms in summer complaint are those connected with the bowels. The diarrhoea is characterized by stools which differ from each other greatly, as to number, consistency, color, and odor. Of the several phases of the stools, the odor is the one to which I wish to call particular attention. It is indeed remarkable with what certainty the stools may be divided by their odor into putrid stools and acid stools. Occasionally the stool will be described as having an intensified fecal odor, or