THE HARBOR OF NEW YORK.

At this particular juncture of our commercial affairs, when the carrying trade of the Atlantic ocean is being successfully monopolized by immense iron screw steam vessels of great tunnage and draft of water, some apprehension justly exists among the merchants of this city as to the present condition of the harbor of New York and the maintenance of the requisite depth of water on the bar at Sandy Hook. Their serious attention has been called to the wash of earth from the streets and sewers of New York and Brooklyn into the slips bordering thereon, by which not only this harbor is being injuriously affected but the width of the channel inside of the bar at Sandy Hook is becoming seriously narrowed, and ultimately the depth of water on the bar will become greatly lessened. It is certainly time that the above class should be thoroughly awakened as to the importance of this subject; for it is pregnant with much evil if remedial measures are not at once applied. In this matter we should follow the example of the merchants of Boston, who, some time ago—awake to the great importance of the preservation of their harbor, and alarmed regarding the moderate depth of water in it—had an interview with the President of the United States, and solicited a commission to thoroughly examine it and duly report thereon with all possible dispatch.

Now, in view of the great interests that would be affected by any reduction of the depth of water on the bar at Sandy Hook, it has been deemed proper that some investigation should be made as to the extent of the deposit of *silt* into the rivers bordering npon New York, for the purpose of placing the results before the public, in order that its attention might be directed to the consideration of an clement in our commercial position, secondary to none others, namely, the maintenance of a depth of water at the entrance of our harbor equal to the full requirements of our commerce, and with this object in contemplation, some time ago, Mr. Charles H. Haswell, marine engineer, of this city, proceeded to make such observations as he thought best calculated to furnish the essential elements in ths case, restricting himself to the subject of deposits in our harbor; he did not propose to consider the encroachment upon the boundaries thereof, by the extension of bulkheads and piers, and the injurious effects therefrom, for the twofold fact that the necessity of restraining these encroachments had become so manifest to the public at that particular time that not only had the attention of our Legislature been called to the subject, but it was then receiving the consideration of a committee appointed for the purpose of investigating and reporting thereon; and secondly, that the operation of such encroachment was so similar to that he proposed to investigate, viz: the reduction of the tidal volume of our harbor, that the deductions in one case would be equally applicable to the other. Accordingly, in a communication to the Board of Underwriters of New York, he thus lucidly and elaborately reports:—"As a prelude to my task, I assumed it to be indisputable that the bar at Sandy Hook was, in its general features, like the bars of all tidal rivers, and that it presented a series of irregular obstructions stretching across the entrance into the lower bay, with a varying and less depth of water upon it than in the channels within it. The causes admitted to produce this general result are numerous, but the following apply, in my opinion, peculiarly to the locality under consideration:—

"1st. The arrest of the current of the last of the ebb tide from the bay, where it meets the first of the sea flood when it surrenders the *detritus* it holds in suspension.

"2d. The difference of the flood aud ebb currents in their directions.

"3d. The action of ground swells from the sea, which, if heavy and flowing from the southward and eastward, deposit sand and gravel upon the bar, and at all times, when aided by the current of the flood, within the entrance thereof.

"4th. The occasional diminution of the back water of the bays and rivers leading thereto from drouth, and the reduction of the tidal volume by the presence of ice upon flats and the shores

"5th. A reduction of the tidal area by the constant accretion of *detritus* upon the shores.

"The first three positions are similar, in a great degree to those entertained by E. K. Calver, R. N.; the fifth one, by Sir Henry de la Beche.

"In the prosecution of my observations, I selected sixteen locations which I thought best suited to furnish me with the elements desired, and providing myself with an equal number of bottles of like capacity (30 cubic inches), I repeatedly filled one of them with water from each of these localities at half-tide (both ebb and flow), both in dry and wet weather and at different seasons of the year; such water was then filtered, and the residuum weighed and noted in grains, the average results of which, deduced from the operations of five years, furnish the following:—

Weight, in Grains, of Deposits in 30 Cubic Inches of Water taken from the undermentioned Localities:—

Sandy Hook	.109	Manhattanville	.578
Narrows	.265	Harlem Bridge	1.031
Robbins' Reef	.367	Hell Gate	1.093
Ellis' Island	.811	Thirtieth-street, E.	1.265
Battery	1.687	Twenty-third st., E.	2.968
Liberty-street	6.927	Grand-street	4.000
Canal-street	8.531	Wall-street	5.187
Thirtieth-street, W	.937	Broad-street	6.375
			42.131

"The mean weight of deposits is thus found to be 2.633 grains in every 30 cubic inches of water examined. (42.131÷16=2.633). Excluding therefrom all the city localities, except one upon each side of it, for the purpose of arriving at a mean of the average presence of *silt* in the water of our harbor above the Narrows, the following result is obtained:—

Narrows	.265	Manhattanville	.578
Robbins' Reef	.367	Harlem Bridge	1.031
Ellis' Island	.811	Grand-street	4.000
Battery	1.687	Thirtieth-st., W.	.937
			9.676

"From which it appears that the average annual flow of *silt* in the rivers bordering this city reaches the enormous rate of 1.209 grains in every 30 cubic inches of water (9.676÷8=1.209); and assuming the quantity of the former to be equal to 125 lbs. per cubic foot, a cubic inch of it will weigh .072 lb. The volume of this deposit compared with water, is, therefore, as 1 to 12,565

"Confining my observations to the city of New York alone, and taking the deposits shown in the water from the several localities around the city, the mean amount of *silt* in every 30 cubic inches of water is as follows:—

Battery	1.687	Grand-street	4.000
Liberty-street	6.937	Wall-street	5.187
Canal-street	8.531	Broad-street	6.375
Thirtieth-st., E.	1.265	Thirtieth-st., W.	.937
Twenty-third-st., E.	2.968		
			37.887

"The average of these deposits is 37.887÷9=4.209; and hence, by the elements before given, it appears that the volume of the deposit from the water in the slips of this city between Thirtieth-street (east and west) and the Battery, when compared with that of the water (at half tide), is as 1 to 3,610. Startling as these results appear, it must be borne in mind that they do not give a full exhibition of the facts of the case, for the observations made were necessarily confined to the presence of *silt*, and embraced only that portion which was retained in suspension by the flow of currents; whilst the deposit of *detritus* from the flow of gravel, sand, &c., could not be arrived at, unless by a different system of observation, and it is, consequently, not embraced in the above results."

[To be continued.]

APPLICATIONS FOR THE EXTENSION OF PATENTS.

Lantern to destroy Bee Moths.—Samuel C. Witt, of Hartleton, Pa., has applied for the extension of a patent granted to him on the 7th of October, 1846, for an improvement in the above-named class of inventions. The testimony will close on the 10th of September next, and the petition will be heard at the Patent Office on the 24th of that month.

Buoyant Carriage.—Alexandrine Stanton, executrix of Henry Stanton, late of Kings county, N. Y., deceased, has applied for the extension of a patent granted to him on the 27th of February, 1847, for an improvement in the above-named class of inventions. The testimony will close on the 28th of January next, and the petition will be heard at the Patent Office on the 11th of February.

PLEURO-PNEUMONIA IN CATTLE.

As this "cattle disease" is still exciting a great deal of attention among all who are interested in agricultural objects, and as it is stated to have broken out in this city, and that two oxen died with it last week in the Central Park, every new fact thrown into the stock of useful knowledge respecting its nature and treatment is of inestimable value. We therefore condense the following, on the subject, from the *Irish Agricultural Review*, of the 22d of June; and its value will be more highly appreciated when we state that its author is G. S. Brown, Professor of Veterinary Therapeutics in the Royal Agricultural College at Cirencester, England:—

Taking into account the length of time during which the disease has existed, it seems curious that a perfect unanimity of opinion respecting its nature and treatment should not prevail. So far from this being the case, most opposite notions are entertained on both these points; and, of course, the advocates for each do not lack evidence in support of their own theory. That the lungs are, in some degree, suffering from inflammation is the general belief, as we gather from the positive statements. That common inflammation is frequently confounded with the epizootic disease we cannot doubt; and hence may arise the occasional success of measures which would be especially destructive in the actual presence of what they are meant to cure.

If in this article we shall advance ideas not at present current, we pray our readers not to be startled out of faith by their mere novelty; we claim only credit for having carefully looked into the subject, and drawn our own conclusions.

As anatomy must ever be the foundation of a correct system of medicine, a slight sketch of the organs mainly effected will not be out of place.

The organs of respiration, or the apparatus concerned in the process of breathing, are contained partly in the cavity of the chest formed by the ribs on each side, having the intermediate spaces filled with muscle. The whole interior of the cavity is lined by a fine transparent membrane, which also covers the various organs and parts contained. This membrane is called the "pleura." In the cavity are placed the "lungs" or "lights," the principal breathing organs, connected to the nostrils and mouth by a long tube composed of rings of cartilage, and termed the "wind-pipe." With the lungs we have mostly to concern ourselves. These organs, whose external appearance is familiar enough to everyone, are composed of several structures, to wit, the various minute branches of the wind-pipe, forming the "bronchial tubes," terminating in fine air cells, blood vessels in large numbers, with accompanying nerves, all bound together by a quantity of fine thread-like fiber, and covered with the before-mentioned "pleura." Between the two lungs are placed the heart and its large vessels proceeding to and from. As the disease we are about to describe is nearly confined to the lungs, this short description of their situation and structure is necessary to enable the reader to follow our remarks on the effects produced by the malady.

Our inquiry into the nature of the disease under discussion leads to the following conclusions, founded on observation of phenomena presented in the various aspects which the malady assumes. 1st, That pleuro-pneumonia is essentially and primarily a disease of the blood, consisting in a rheumatic condition of that fluid, evidenced by an excess of fibrin, with a tendency to its deposit. 2d, That owing to some obscure causes, probably atmospheric, the lungs receive an undue share of this diseased fluid, the viscid character of which prevents free circulation and promotes a sluggish condition, ultimately amounting to absolute rest. During this process the fibrin is deposited first at the lower part, and gradually over the whole organ, coating its membrane, compressing its air cells and tubes, and interfering with the respiratory function. A general derangement of the system is easily understood; when we start with a bad condition of blood, and under the combined influences of emaciation and loss of breathing surface, the animal dies. We repeat, the grand distinctions of pleuro-pneumonia are the absence of any inflammation or active determination of blood to the lungs, and the presence of a diseased fluid supplying slowly and certainly the material which will block up and obliterate the vessels and air cells. The symptoms from the first are suggestive of primary disturbance