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## RAIL-ROAD NEWS.

### Tunnel Under the Hudson River at Albany.

Mr. Higham, C. E., has published, in the Albany Evening Journal, his plan for making a tunnel under the Hudson River, at Albany, the cost of which he estimates will amount to \$517,720. The following is an outline of the plan:—

Commence the tunnel at a considerable distance from the river with a descent of 150 feet per mile. It is to be made of a brick arch. The whole tunnel is to be made under the river by coffer dams, and sinking iron tubes to turn the arches in them. Across the channel part of the river it is proposed to dredge the river to its proper depth, and to sink wrought iron tubes in which the brick arches will be turned. The tubes are proposed to be built of boiler plates, made in such lengths as may be found practicable. The plates of the tube to be rivetted on ribs of T iron, to give them form and stiffness. The ends of the several lengths of tubes, as they are sunk, to have temporary bulkheads so that the arches through each section may be finished when the joining will be made, by throwing puddling materials on the outside of the tubes, and, when tight, taking out the bulkheads and turning the arches at the connections. The materials for the arches to be taken into the tube by pipes rising above the water.

The form proposed for the tunnel is two circles, connected together by a range of columns; the arches to be of brick, twenty-seven inches thick; the brick to be made for the purpose, of the proper shape; three courses of brick to form the depth of the arch. Where the arches join in the centre, on the columns, will be cast-iron girders. In the bottom of the arches, under the tracks, will be suitable drains to collect any leakage, and a pump at the lowest point (which will be near the pier) for drawing the water from the tunnel. The object of giving this form to the tunnel was to save height, and to lessen the grades entering into it.

A chimney for ventilation (150 feet high) will be constructed on the pier, at which place will be the permanent draining-pump and the gas works for lighting the tunnel, and the several railroad companies' depots, shops, and grounds. A staircase will also be made on the pier and one on Quay street, to give access to foot passengers into the tunnel. A double track railroad will be made from East Albany to Quackenbush street, where they will connect with the tracks of the several roads leading into the general passenger depot proposed to be erected for all the railroads terminating at Albany, and the freight grounds of the Albany and Schenectady Railroad. In the tunnel will be a sidewalk, neatly railed in, for foot passengers.

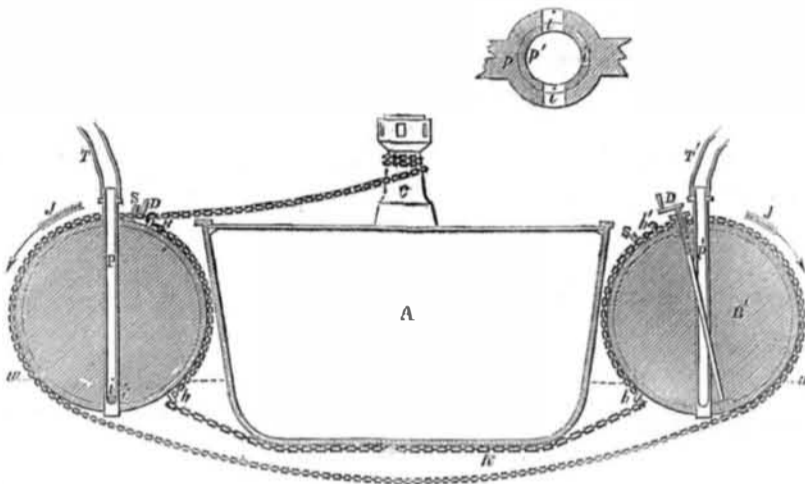
If all this can be done for \$600,000, it will be the greatest engineering feat ever performed in our country.

On Wednesday, last week, a collision occurred on the Harlem R.R.—3 persons injured.

## SUBMARINE ELEVATOR.

Figure 1.

Figure 2.



The accompanying engravings are views of the Submarine Elevator patented by the inventor, Mr. Orrillus T. Williams, of Smithland, Livingston Co., Ky., a few weeks ago.

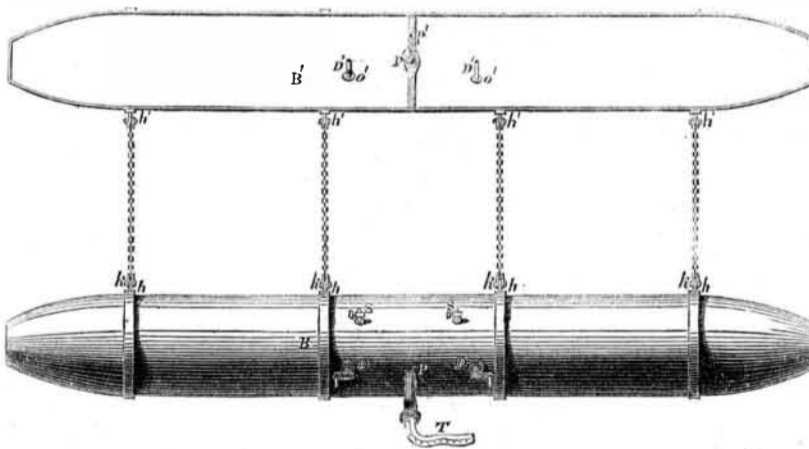
Figure 1 is a cross section; figure 2 is a sectional view of the diaphragm and pipe for opening and closing the apertures; figure 3 is a plan view. The same letters refer to like parts.

A is a vessel intended to be raised; B and B' are cylinders; P is an injection pipe, and T is a flexible tube attached to it; D D are cranks turning valve rods, D' D', working with the screw stuffing boxes to open and close the valves as seen at O' O', in the cylinder, B'; p' is a diaphragm, in a swelled part of which the pipe, P' works, opening and closing the apertures, i i. The cylinders, B B', are connected together by hooks, h h', and chains, K; c is a capstan, by which chains are acted on, and the two cylinders made to revolve. The direction of the motion of the cylinders is represented by the arrows, j j. At S S are screws having broad heads and

elastic washers capable of closing, air-tight two vents, the opening of which allow air to escape when the cylinders are to be sunk in the water.

The object of the invention is to raise vessels. The manner of using the apparatus is to sink the cylinders by the vessel, pass the chains beneath the bottom or through the sides as the case may be. This having been accomplished, air is forced through the flexible tubes, and the water in the cylinders, with which they were filled while sinking, is forced out through the apertures in the lower part of the cylinders. The buoyant force of the air—which is equal to the power applied to force out the water, and the air in, elevates the vessel. As the cylinders are constructed to have more buoyant power than to raise the vessel merely to the surface of the water, the cylinders are then made to revolve, by which means the chains around the bottom of the vessel are raised up by the cylinders, and the bottom of the vessel is likewise raised above the surface of the water. When

Figure 2.



brought to the required position, it remains so, without liability to derangement. We have seen a certificate from members of the New York Board of Underwriters, that they believe the "Submarine Elevator of Mr. Williams

will operate in a satisfactory manner, and they think favorably of its merits." This invention merits the attention of all interested in such matters. More information may be obtained by letter addressed to Mr. Williams.

### Effect of Monotony on Health.

No man for any length of time can pursue one vocation or one train of thought without mental injury—nay, I will go further, without insanity. The constitution of the brain is such that it must have its time of repose. Periodicity is stamped upon it. Nor is it enough that it is awake and in action by day, and in the silence of night obtains rest and repair; that same periodicity which belongs to it as a whole, belongs, too, to all its constituent parts. One portion of it cannot be called into incessant activity without a permanent injury ensuing. Its different regions, devoted

to different functions, must have their separate times of rest. The excitement of one part must be coincident with a pause in the action of another. I do not think it possible for mental equilibrium to be maintained with one idea or one monotonous mode of life. There is a necessity for men of great intellectual endowments, whose minds are often strained to the utmost, to fall back on other pursuits; and it will always be that one seeks refuge in the pleasures of quiet country life, another in the chase, another in social amusements.—Nay, with all men, even those whose lot has been cast in a more lowly condition, whose

hard destiny it is to spend their whole lives in pursuit of their daily bread, with one train of thought, one unvarying course of events, what would become of them if it were not for such a principle as this? Men often say that the pleasures of religion, and of a christian faith, are wholly prospective, and to be realized only in another world.

In this they make a mistake; for those consolations commence even here, and temper the bitterness of fate. The virtuous laborer, though he may be ground down with the oppressions of his social condition, is not without his relief; at the anvil, the loom, or even at the bottom of the mine, he is leading a double existence—the miseries of the body find a contrast in the calm of the soul—the warfare without is compensated by the peace within—the dark light of life here serves only to brighten the glories of the prospect beyond. Hope is the daughter of despair. And thus a kind Providence so over-rules events, that it matters not in what station we may be—wealthy or poor, intellectual or lowly—a refuge is always at hand, and the mind worn out with one thing turns to another, and its physical excitement is followed by physical repose.

### Phosphate of Lime in Consumption.

When an account of Dr. Stone's (of New Orleans) success in treatment of consumption was published, it naturally enough interested the profession, as well as the friends of those who were suffering, because it raised a gleam of hope in cases where none existed. The following facts have come to our knowledge, and may be considered favorable in regard to this method of treatment. A gentleman of the neighboring city of Charlestown, whose son was considered in a hopeless state from the diseased condition of the respiratory apparatus, was induced to administer Dr. Stone's medicine. All the phosphate of lime procured at the shops appeared to be imperfectly prepared—being coarse and otherwise objectionable. A purer article was prepared especially for the occasion, reduced to an impalpable powder, and ten grains were administered three times a day, followed by a swallow of cod-liver oil. No material change was discoverable in the patient for two weeks. Suddenly, as it were, a fixed pain of long standing in the chest then abated; sleep became refreshing the appetite improved, strength returned, and from being moved about the apartment reclining on an invalid chair, he is now daily riding on an average, ten miles on horse-back, facing the wind and breasting the cold with impunity. This is a synopsis of a case related by a grateful parent, who would be glad to have others, under similar circumstances, make an effort with the phosphate, combined with cod-liver oil.—[Boston Medical Journal.

### Disease Propagated by Bank Notes.

A work, entitled History of Epidemic Cholera, has recently been published by Dr. T. H. Buckler, physician to the Baltimore Almshouse, in which he alludes to the propagation of disease by means of banknotes:—"The inmate of a small-pox hospital generally keeps what little money he may chance to have about his person. If he wants a lemon, he sends a note saturated with the poison, and having, perhaps, the very sea-sick odor of small-pox, to a confectioner, who takes it, of course. It would be impossible to conceive of any better mode of distributing the poison of a disease known to be so contagious and infectious. It could hardly be worse if so many rags were distributed from the clothing of small-pox patients.

By our Eastern papers we learn that the boot and shoe trade is very dull, and that the prices for labor have been greatly reduced. Many of the shoemakers, it is said, are making tracks for California.