



## DIY – Building your own Aquarium in 1862

By Lee Finley

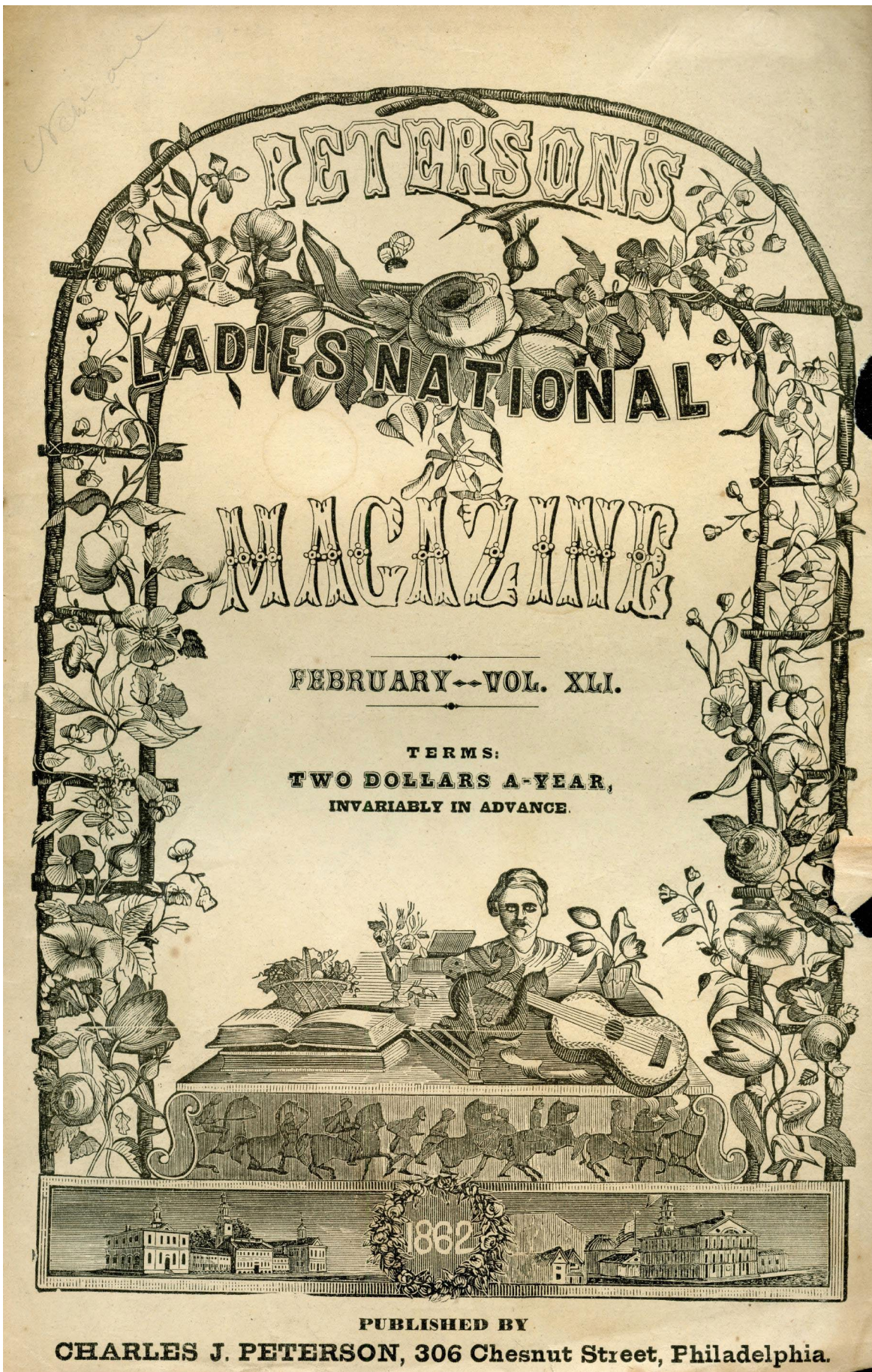
As I believe I've noted before in this forum my main interest in the history of aquariums is firmly rooted in the 19th century. In the early stages of aquarium use in the United States there were comparatively few book titles available for budding aquarists...two from 1858 and one from 1866. This low number of titles was increased by the importation of available titles produced in England. To be fair I will note that titles in other languages (mainly German) were also available.

Other sources of aquarium-based information were provided in a wide variety of magazines and newspapers. Although the number of articles in these sources never reached the level of the so-called "Aquarium Mania" previously experienced in England there was a surprisingly good amount of such material published. Included were reprints from English sources and a good, and growing, amount of domestically produced material by both budding and more experienced American aquarists. This area of aquarium publications is of strong personal interest and is helpful in chronicling the growth of the hobby in this country. There is hardly any American magazine title from the early 1850's onward that did not in one way, or another address the topic.

The magazine of interest herein is one which was published in Philadelphia, Pennsylvania. This magazine went through some title changes during its early years and the article for discussion appeared in the version titled "Peterson's Ladies National Magazine." A wide variety of topics were covered which would be of potential interest to the intended audience. These included, but were not limited to, some fiction, poetry, modern fashions, sewing, sheet music, recipes and a variety that would be considered as housekeeping topics. And of course, though not overly abundant, the aquarium was a topic receiving coverage from time to time.

Most of the early magazine (and newspaper) articles that I have reviewed to date deal with the set-up and maintenance of the aquarium – be they marine or freshwater. Of interest here is a February 1862 article from Peterson's that in detail describes the building of "A Cheap And Simple Aquarium." Although I have seen several articles dealing with a DIY aquarium building project this one is by far the most comprehensive of them. So, before moving on to some comments regarding this piece I present it for your possible reading interest.





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## A CHEAP AND SIMPLE AQUARIUM.

BY H. J. VERNON.

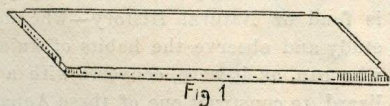
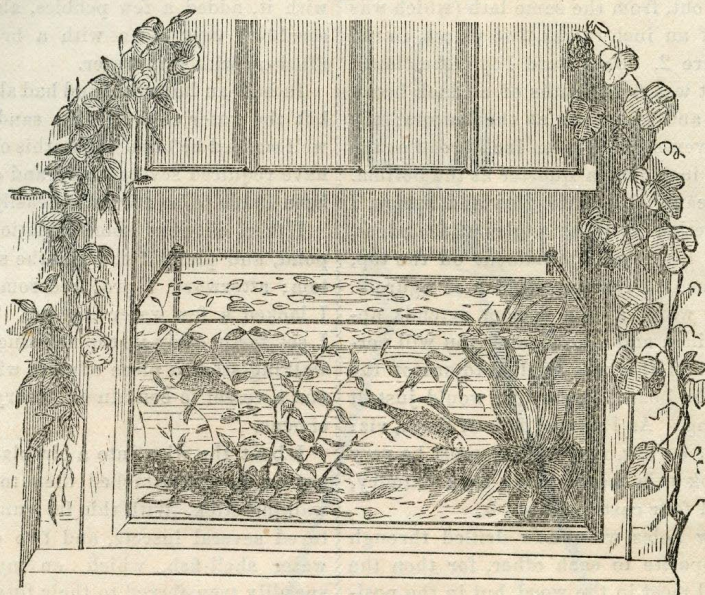


Fig 1

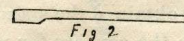


Fig 2

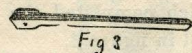
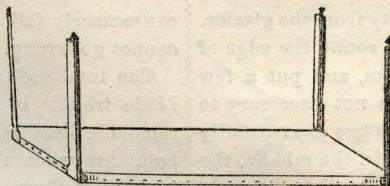


Fig 3



SOME time ago I conceived the idea that with a little care and thought I might construct an Aquarium; and, being fond of Natural History, I determined to make the attempt.

My first considerations were of what kind and shape I should make it, and where should it stand? I speedily fixed all the points, and decided upon a glass tank of such size and form as would fit in a window, which, having an aspect toward the west, appeared suitable for the purpose.

The sill of the window was 2 feet 8 inches; and its breadth  $6\frac{1}{2}$  inches; the height of the first row of panes  $11\frac{1}{2}$  inches. I procured from

a glazier two sides, two ends, and a bottom, of the proper dimensions, cut from thick glass. The sides were each 2 feet 7 inches by  $10\frac{1}{2}$  inches: the ends each  $10\frac{1}{2}$  inches by  $5\frac{1}{4}$  inches, and the bottom 2 feet 7 inches by  $5\frac{1}{4}$  inches. I also obtained, from a carpenter, a well-dried inch-board, 2 feet  $7\frac{1}{4}$  inches long, and  $5\frac{3}{4}$  inches broad.

This was for the bottom, and you will perceive that when the glass intended for the bottom was fastened down to it, there would be a space of one-eighth of an inch all round (equal to the thickness of the glass).

I next fastened to each edge of this board a



straight planed lath, an inch and a half broad, which, therefore, stood half an inch above the surface of the board.

The laths did not come quite to the corners of the board, for I left a space of an inch on each side of every angle. This board, with the lath at its edges, is represented in figure 1.

I now cut out, from the same lath (which was a quarter of an inch thick), two pieces, in the form of figure 2. Both were  $11\frac{1}{2}$  inches long; and the first was five-eighths of an inch broad at the top, and one inch at the bottom; the other was seven-eighths of an inch broad at the top, and an inch and a quarter at the bottom. These, by means of a little glue and sprigs, I fastened together at right angles at the edges, and stuck a little brass ornament on the top, when it presented the appearance of figure 3. The greater width at the bottom extends upward for an inch and a half; and you will perceive that when this was applied to one of the corners of the board, figure 1, it would just fit in the opening. As I wanted four of these, viz: one for each corner, and as they must be very strong, I took this model to an iron foundry, and obtained four castings from it.

Two screw holes were now drilled through each, not opposite to each other, for then the screws would meet in the wood, but in the positions shown by the small circles in figure 3.

Having now obtained the standards, I screwed them firmly to the corners for which they were intended, which completed the vessel as far as is represented in figure 4.

It now remained to fit in the glass. For this purpose I procured some putty from the glazier. I first spread some putty all round the edge of the board forming the bottom, and put a few portions in the middle; it is not necessary to cover all the board; if the edges are carefully done all round, and a little in the middle, the glass will be held quite firmly, leaving a margin of an eighth of an inch all round.

The inside of the standards, which I first painted with white paint, now had some putty applied to them, and the sides and ends filled in. A slight framework round the top completes the vessel.

No white lead should be allowed to get inside, as it will prove injurious to the fish.

After remaining in this state for a few days, and being tried and found water-tight, it was time to think of stocking it. I covered the bottom with sand, which I washed several times previously to remove the clay which was mixed with it, added a few pebbles, also washed and scrubbed very clean with a brush, and then filled up with rain water.

In half an hour the sand had all subsided, and left the water clear; if the sand had not been well washed before using it, this operation would have required several days, and even then have been liable to be stirred up easily.

I then obtained some aquatic plants from a pond, and planted them in the sand at the bottom; afterward, I procured some fish—but yet I lacked a few water insects. To catch these, I set forth early in the morning, armed with a walking-stick, a piece of stout wire, a small net, and a vessel to contain and carry home my specimens.

I bent the wire into a circular form, put the net on it, and attached them to the end of my walking-stick. With this instrument I soon captured several insects, and two or three fresh-water shell-fish, which, on my return, were speedily transferred to their future home.

I would strongly recommend any person who is fond of Natural History—who delights to study and observe the habits of animals—and who can, as it were, converse with a frog or a lizard, to construct one of these Aquariums, as even if they possess little mechanical skill they can scarcely fail, and with regard to specimens cannot go wrong.

The total cost of mine was about one dollar. Little trouble is required to keep it in order—removing decayed leaves, and adding more inhabitants when the vessel appears capable of sustaining them, constitute the chief points of care.

Some recommend that the water should never be changed, and others that a small quantity of water should be taken out every day, and an equal quantity very gently added. I follow the latter practice.

## EDGING FOR CHEMISE.





I hope that you enjoyed seeing the article as it originally appeared. The scans were made from an original copy that resides in my personal library. What follows are some thoughts and observations on the piece and its place in aquarium history.

1. As noted above this article is the most concise that I have seen to date dealing with the home construction of an aquarium. I am not a “handy” person around the home. I am thrilled when I can change a washer or two on a sink or a hose and even putting in a new light bulb can bring a touch of pride. So, for me to follow the writer’s directions and build an aquarium...NOT! I am an untalented (in such matters) man of the last and current century and have always bought ready made aquariums for my use. But 1862 was a different time....and who knows. Were I from then maybe I would be more than a bit talented in such matters. I do know some aquarists today who no doubt could follow the provided instructions and build a nice aquarium. I would then be more than happy to purchase it from them.
2. Interestingly the author of the article does not provide a gallonage value for the aquarium. Following the standard formula for determining the capacity of an aquarium (length x width x depth divided by 231) the described tank will hold about seven gallons of water. This is factoring in the description of the glass (about 1/8th of an inch “thick”).
3. The cost of the tank is given as “...about one dollar.” Not bad! There are websites that will calculate for you what the value of money in a given past year equals in today’s dollars. According to one such source (viewed on 10/29/23) one dollar in 1862 equals \$30.47 now. And 1862, due to the Civil War, was a bad year with an overall inflation rate approaching 15%. For comparative purposes regarding the cost of aquariums at the general time I will note the following: Prices of already made aquariums in the late 1850’s are not commonly seen. But as a known example, P.T. Barnum was at his American Museum in New York City selling a tank of slightly over 14 gallons for \$10.00. Using the above value formula, in today’s dollars that comes to \$353.78!
4. The stocking of the tank was done by local collecting of plants, fishes, and invertebrates (insects and mollusks). Surely the noted collected items make the author a potential candidate for an early member of the North American Native Fishes Association (NANFA).
5. Interestingly the author ends the piece by making note of the then two aquarium water changing (or not) philosophies. He goes for the partial water changing method instead of the “balanced aquarium” approach that was widely used at that time.
6. Lastly, a few words on the author are warranted. On the article the author is listed as “H.J. Vernon.” In a long listing of magazine articles that appeared in the Peterson’s publication that I was able to locate, there is noted one Henry J. Vernon as an author and over a long period of years at least 66 articles and poems are credited to him. Some of these pieces use the name H. J. Vernon. Over the years Vernon wrote many varied articles ranging from the aquarium piece under discussion to other articles on such varied topics as “Salem and Salem Witches”, Diamonds and an interesting piece on lady’s shoes. Certainly, he was an author for all seasons. His venture into the aquarium field created a brief but important piece which adds some important reference to the early history of the aquarium in America. I think that I will keep Vernon in mind and at some time dig a bit deeper into his writing and life.