

Science and Art.

Simple Weather Prognosticator.

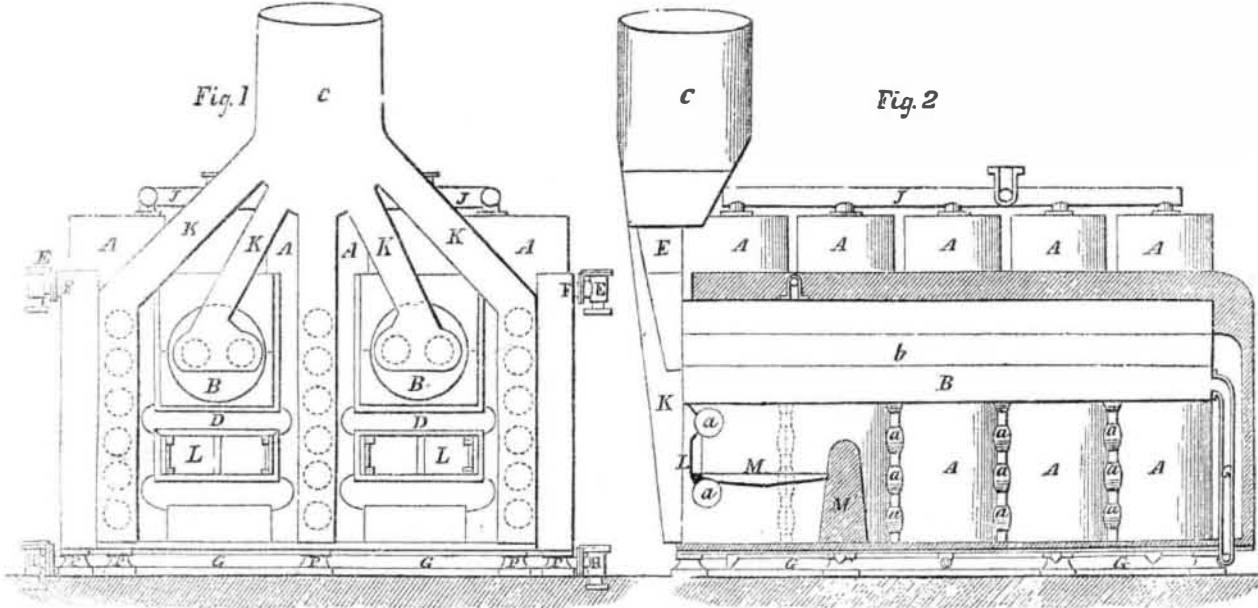
The Mobile Register gives an account of a novel "barometer" which is now in use on board of a Mexican steamer. It is certainly simple, and is said to be very accurate. "It is nothing more nor less than a long strip of cedar, very thin, about two and a half feet in length, about an inch wide, cut with the grain, and set in a block or foot. This cedar strip is

backed, or lined, with one of white pine, cut across the grain, and the two are tightly glued together. To bend these when dry is to snap them, but on the approach of bad weather the cedar curls over until the top, at times, touches the ground. This simple instrument is the invention of a Mexican guitar maker, and such is its accuracy that it will indicate the coming on of a "norther" full twenty-four hours before any other kind of barometer known on the coast. Had this been the production of Yankee ingenuity, it would have been patented long ago, and a fortune made

by its inventor."

Although made to serve as a barometer in pre-telling storms, it is, of course, a measurer of the moisture present, and not the pressure of the air. The wood lying across the grain swells with an increase of moisture in the air, as on the approach of rain, while the cedar does not, and the effect is to put the stick "on a bender" as often as the air becomes moist. We should judge it to be a very good hygrometer for this purpose, and one which, from its cheapness, is worthy of extensive use.

ARMSTRONG'S PATENT STEAM GENERATOR.



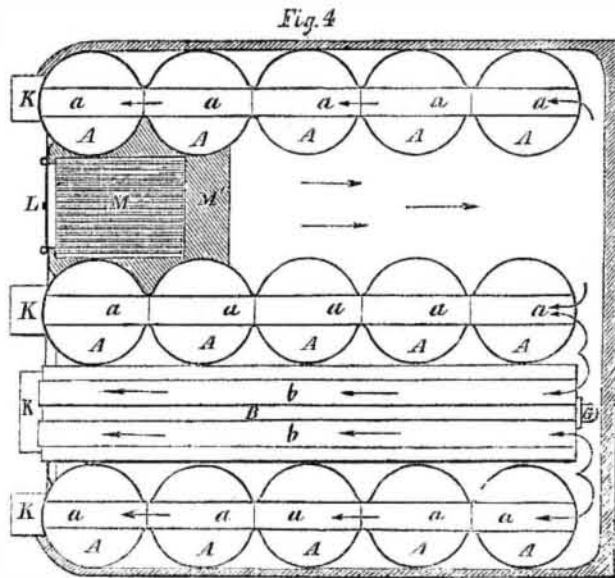
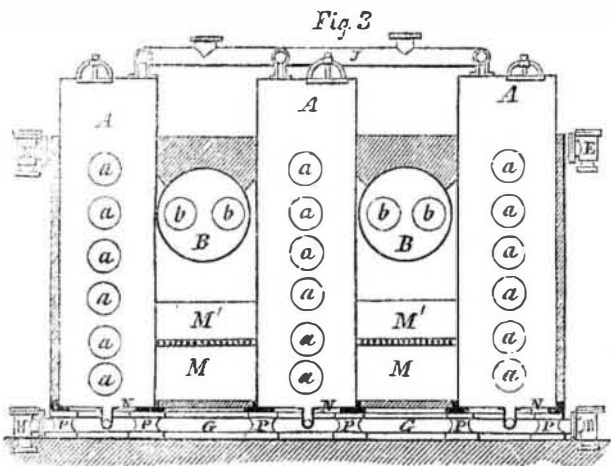
The novel arrangement of all the parts, in the boiler patented by Mr. John Armstrong, of New Orleans, La., in December last, is represented quite clearly in the accompanying engravings.

Since the very earliest period, in the history of steam engineering, the construction of the boiler, the part in which all the force is generated, (generally that of the most expense, and always that of the most danger in case of imperfection,) has been a subject of discussion among all the parties interested, which has yet in nowise abated. The prob-

lem to present the most and best arranged heating surface at the least expense, would be quite a difficult one, and of itself might admit of a great variety of solutions, but in fact the matter is much more complexed by the introduction of other elements, which would probably never occur to the merely speculative student. The necessity in many situations, as in locomotives and steamboats, of reducing the quantity and weight of water, might have been anticipated without experience, but the necessity of providing for easily cleaning out in many situations, and

for readily obtaining access to every part to conduct the repairs which, to a greater or less extent are continually required, so far confuses the subject, that there now exists almost as many favorite varieties of boilers as there are constructors to build, steamboat owners or manufacturers to pay for, or firemen to attend.

Mr. Armstrong's boiler or steam generator, consists of a combination of parts intended to avoid, so far as possible, all objections, and especially to provide against deposits of mud on the heating surfaces, a point which parties using the water of any riv & flowing through



alluvial deposits, and especially that of the Mississippi, know well how to appreciate. The language of the inventor, which is very clear and concise, may be given in description.

"The object of my invention, as represented in the engravings, is to construct a boiler possessing all the advantages of flued boilers in the proportions of heating surfaces to cubic contents of water, and all the advantages of plain cylindrical boilers in facility for cleaning and accessibility to all parts for repairing, and to possess the desirable quality of not having any portion of its heating surface exposed on its water side to receive the sedimental deposits of the water; the bottom of the boiler on which the deposits fall, being at a point below the fire, and not exposed to it.

To accomplish the object of my invention as above stated, I arrange three rows of vertical cylinders, A, in size and number, corres-

ponding to the size of boiler required; each cylinder, A, having a series of horizontal flues, a, laying in the vertical plane, cutting the centers of all the vertical cylinders in each row, and the flues in all the cylinders laying in one series of horizontal planes, so that with the cylinders of one row standing contiguous, or in contact with each other, a series of flues will be formed, a a a a a, lying in a vertical plane through, and the length of the row of vertical cylinders, A A A A A. The space between each row of cylinders, I make sufficient to form at one end the furnace, M. The top of the space between the rows of vertical cylinders I close by a common double flued boiler, B, the top of which is in the same horizontal plane as the top of the flues, a, in the vertical cylinders. The vertical cylinders are all connected together in their water spaces by the pipes, G, on the bottom, and in their steam space by the pipe,

J, on the top end; E is the check valve through which the feed water is admitted, and H is the blow-off valve through which the salt or muddy water is discharged. Each cylinder stands on two pedestals, P P, and has the usual man-hole in the top head. The three front cylinders of the three rows, are connected by two large pipes, D D, which form a part of the fire front of the furnaces, and the bearer for one end of the grate bars. The flames or heated gases pass along between the rows of vertical cylinders, and return through the flues of the cylinders and those of the horizontal boiler, and discharge into the breechings, K K K K K, which all unite in one chimney, C.

By thus arranging the heating surface in vertical cylinders with the heat applied to all sides of them, I utilize a much larger proportion of the boiler surface than is usually done in any other form of boiler, there being no

portion of the surface of my boiler unexposed to the heat, except that which forms the steam room and the bottom heads of the cylinders, where the mud deposits, while every part, both inside and outside, is accessible for cleaning and repairing. The lower end of each cylinder being its own mud receiver, collecting vessels, and also steam drums, as used on steamboats of the Western rivers, are dispensed with."

More full information, with large and full lithographic drawings, may be obtained by applying by mail or otherwise, to the inventor, J. Armstrong, corner of Luzette and New Levee streets, New Orleans, La.

Artesian Wells.

The artesian wells of this city, owned by the different sugar refiners, brewers and others, will give over two millions of gallons of water per day, which, at the rate charged for the Croton, would cost the consumers over seventy thousand dollars per year. This sum is equal to the interest of one million dollars, while the wells have cost less than fifty thousand dollars. As the actual statistics are of considerable importance, we present the following relating to several of the most successful:—

|   | No. of gallons per minute. |
|---|----------------------------|
| Montgomery st. well                       | 100                        |
| Harris & Kuhn                             | 350                        |
| Havemeyer & Moller                        | 350                        |
| John Harrison                             | 100                        |
| Ockershausen                              | 100                        |
| Dudley & See                              | 100                        |
| Tatham & Brothers                         | 100                        |
| John Taylor                               | 100                        |
| Howell & Co. (not now in use)             | 130                        |
| <b>Total number of gallons per minute</b> | <b>1430,</b>               |
| after making all allowances.              |                            |



Inventors, and Manufacturers

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