Scientific Museum.

[For the Scientific American.]

Meteorological Calculations.

The following table of meteorological calculations is made for long. 6° West from Washington, for the months of January, February, and March, 1853; showing the time of passage of atmospheric influences, also their average velocity of movement in miles per day; being a continuation of a similar series of calculations published in the "Scientific American," Vol. 8, page 339.

Time of passage.	Velocity. Miles.	Time of passage.	Velocity. Miles.
Jan. 5, 11 A.M.	692	Feb. 16, 5 A.M.	908
" 8, 5 P.M.	888	" 21, 7 "	808
" 9, 4 A.M.	912	" 27. 1 "	907
" 16, 10 "	708	Mar. 4, 2 P.M.	1006
" 27, 7 P.M.	950	" 8, 2 A.M.	882
" 28, 5 A.M.	910	" 8, 8 "	673
" 29, 2 P.M.	732	" 14, 7 P.M.	885
Feb. 10, 5 A.M.	668	" 21, 9 "	1031
" 15, 1 "	970	" 27, 10 "	876

REMARKS—1st. The general average movements of atmospheric influence, in our climate, is about 864 miles in 24 hours, or 36 miles an hour. The average movement of the influences around the earth for the first three months of 1854, will be about 856 miles a day—being about 8 miles less than the general average.

2nd. Atmospheric disturbances, or waves, may sometimes move with a less velocity than their accompanying influence; but if so, they cannot travel far before they will be dissipated and a new one formed in their advance.

3rd. Atmospheric influences have separately a sustaining cause, and their effects are more or less extensive according to their relation with the cause.

4th. The variableness of the accompanying phenomena in temperate climates is partly in consequence of the continually changing position of the influences, and of their peculiar relations.

5th. Two or more influences travelling together are generally sufficiently united in their action to produce more than a single ordinary result.

6th. Two or more influences moving in close proximity, have their usual results counteracted. The production of rain is of rare occurrence from a relation of this kind; but the unusual quantity of the cirrous cloud formed, is a sure indicator of such a position.

7th. When two or more influences are traveling nearly together, approaching or receding, their time of passage may be either before or after the calculated time. J. HALL.

Athens, Ill.

Cotton Seed.

It can be no longer questioned that the cotton seed, in many parts of our country is fast degenerating, and we hear frequent complaints from the planters on this subject.

The plants, in many places, are not so vigorous in growth nor in quantity and quality produced as formerly. We are assured that the staple of the cotton is being seriously affected by this degeneration of the cotton seed. Various reasons are assigned. One thinks it is owing to the condition of the soil or the weather; another thinks it is owing to the defective manner of culture; "I must change my seed," says a third; and thus a variety of conjectures are started. The reason of this degeneration is made to appear when we consider that, year after year, our planters pitch their crops with seed taken promiscuously from the field. In the very nature of things it must dwindle and become dwarfish in the course of time; and notwithstanding it depreciates under their eyes, they still pursue the insane policy. Upon the same principle your stock of horses, cattle, or hogs would degenerate and run out. We do not wonder, therefore, that your cotton is seriously affected—you do nothing to improve it—to give vigor of growth or constitution.

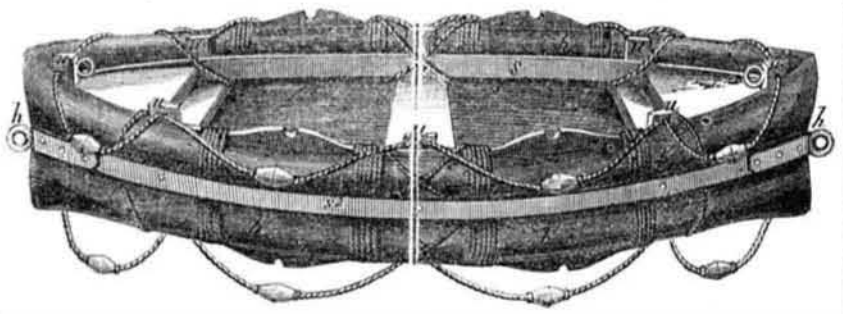
There is no need to change your seed—all that you have to do is to pass through your fields and select your seed from those plants that exhibit most vigor of growth and produce the greatest number of bolls. Plant those by themselves, and then cull again as before; or else select a few acres, and plant it exclusively with the best seed, selected as above, and in one or two years you will have superior seed, if not better than can be obtained anywhere else. If you are too negligent or lazy to make the necessary improvements, no complaints should fall from your lips.

The famous seeds, about which so much is said, and for which such high prices are paid, have been brought up to this high state of culture by the means stated above, and by proper crossing kept up for a series of years.

Try the plan indicated, and you will find a vast improvement in the quality and quantity of your cotton.—[Southern Organ.

[Our Southern cotton planters, we believe, would find it to their advantage to use seed grown in distant localities, such as Georgia seed exchanged for Mississippi seed, and vice versa. In the cultivation of many other plants this has been found to work advantageously, increasing both the yield and quality of the crop.

FRAZEE'S IMPROVED LIFE BOAT.---Figure 1.



We present our readers, on this page, two illustrations of an improved Life Boat, patented on the 22nd of November last, by L. F. Frazee, of New Brunswick, Middlesex Co., N. J.

Fig. 1 is a perspective view of the life boat complete, and fig. 2 is a cross section through the center. The same letters refer to like parts in both figures.

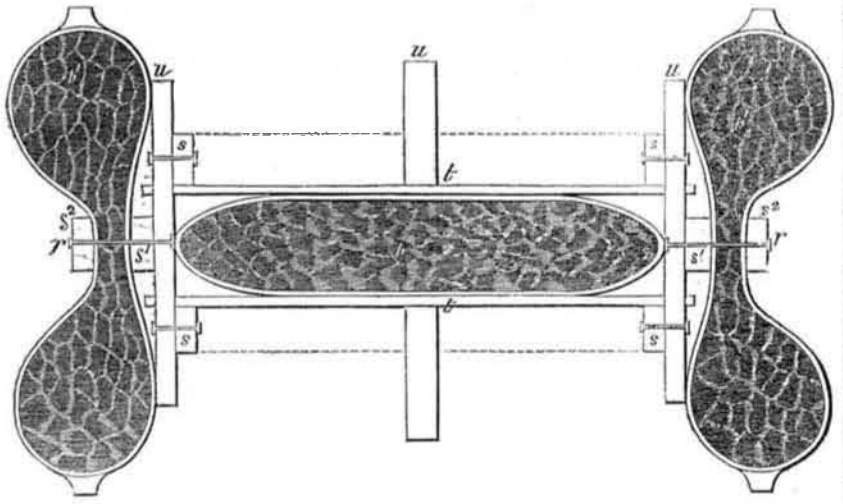
Any life-boat to be serviceable should be strongly constructed, so that it may not be liable to damage, rendering it unfit for use; it must be light in proportion to the number of persons that it will carry, it should be so constructed that it will be always right-side up, and if possible it should be so cheap that all will purchase it.

The nature of this invention consists in combining together buoyant vessels properly shaped and arranged, and constructed of india rubber or oil-cloth stuffed with cork or its equivalent, the combination constituting a life-boat possessing the desirable qualities above specified.

The frame of the float is constructed chiefly of slats of hickory or other strong and elastic wood. To this is attached three balsas or floats constructed and stuffed as before said. One of these balsas constitutes the bottom of the boat, and the other two the sides. The former is secured within a frame made of the slats above referred to, while the two latter are fastened to its sides chiefly by means of the external slats, rivets being passed through the internal slats, side balsas and external slats.

In the illustrations, *n n n* represent the uprights, two of which constitute the stern posts, the intermediate ones being more or less in number, according to the size of the finished boat. On the inside of the intermediate uprights are secured, by rivets or otherwise, the slats, *s s s*, they being also secured outside of the stern posts. The slats, *s' s'*, are secured outside of all the uprights, and from one upright to another reach the transverse pieces, *t t t*, notched over the uprights and resting on the slats. Two other pieces of plank are firmly secured to the forward and after transverse pieces and to the stern posts. Between the transverse pieces and within the slats is located the balsa, *b*. The planks give additional strength and afford firm footing for the steersman. As before stated, two other balsas, whose section is shaped something like an hour-glass, are now applied outside the slats, and outside of these are placed two other slats, s^2 s^2, and riveted fast. Breast hooks, *h h*, are attached to the ends of these slats, confining them firmly, and thus securing the outer balsas. Row-locks and lifelines, with floats upon them, are lashed to these, and the boat is ready.

Figure 2.



We cannot see any reason why this should not be a serviceable float, and as a surge boat it is certainly worthy the attention of all. Ship-owners and masters of vessels are certainly much to blame if they do not provide their vessels with the best life-boats that can be obtained.

Any further information can be obtained of the inventor as above.

Darien Ship Canal Exploration.

A London letter in the "Philadelphia American" says:—

"The Isthmus of Darien ship canal expedition for the purpose of effecting the junction between the Atlantic and Pacific oceans, and respecting which so much interest has been created, will sail on Saturday next from Southampton in the West India mail steamer Orinoco. It will consist, on the part of the Atlantic and Pacific Junction Company, of Dr. Cullen, the discoverer of the route and the conceptionaire, as pioneer; Mr. Gisborne, civil engineer-in-chief; Messrs. Forde and Bennett, and four assistant engineers. On behalf of the British government it will be accompanied by Lieut. Singen, R. E., and staff. The object is the making a detailed survey of the route from Caledonia Bay and Port Escoces to the Gulf of San Miguel, and inaugurating the important work of the junction of the two oceans. At Jamaica the expedition will be joined by Lieut. Strange, United States Navy, and the surveying party under his command, on board the United States sloop the Cyanne, Captain Hollins. The Cyanne will be joined by a British man-of-war from the Jamaica station, and by the French Admiral's ship, with French engineers on board, from Martinique, and the squadron will then proceed to Caledonia Bay, on the Atlantic coast of Darien, where it will be reinforced by her Majesty's surveying sloop Scorpion, which has already sailed from England for that purpose. The surveying party will then cross the Isthmus to the river Savana, where they will meet boat parties dispatched from a British man-of-war which is to be stationed at its mouth in the Gulf of San Miguel, on the Pacific, and then commence detached surveys of the route. As the distance between the tide influence of the two oceans is only thirty miles, the return of the expedition may be anticipated in May next.

Railroad Artesian Well.

The Camden and Amboy Railroad Company, N. J., have just tested one of Mr. Bolles' artesian wells, at Cooper's Point, which that gentleman sunk for the use of their car depot at that place. With a four inch pump there were elevated to the water tank about sixty gallons of water per minute. This pump, as are also all of the pumps on their road used to supply the engines with water, is driven by steam, and so arranged, that when a locomotive comes up to it, a steam pipe is attached, and the surplus steam of the engine pumps the water into the reservoir, from which the locomotive is supplied.

Another Great Railroad Project.

A convention has been held at Bentonville, (Ark.) to devise measures for the construction of what is called the Western Border Railroad. The projected line is to run from the northwestern corner of the State of Arkansas, through the counties of Benton, Washington, Crawford, Sebastian, Scott, Polk, and Sevier, to the Southwest part of the same State, terminating at some point on Red River; it is described as being a link in an extended chain of railway ultimately to be constructed, passing through the longitudinal center of that portion of the great Mississippi Valley lying west of the great river, and bringing into connection and commingling together all the various productions of that valley.

The shock of an earthquake was felt at Geneva in Italy on the 4th ult.