

## The Christian Messenger.

HALIFAX, N. S., JULY 8, 1874.

## ALMANAC FOR JULY.

Last Quarter, July 6th, 1h. 47m. afternoon.  
New Moon, " 13th, 0h. 14m. afternoon.  
First Quarter, " 21st, 9h. 18m. morning.  
Full Moon, " 29th, 0h. 28m. morning.

Day	SUN.	MOON.	High Tide
Wk	Rise	Rises	Sets
1 W.	4 23	7 44	9 56
2 Tu.	4 24	7 44	10 01
3 F.	4 25	7 44	10 06
4 Sa.	4 26	7 44	10 11
5 Su.	4 27	7 43	10 16
6 M.	4 28	7 43	10 21
7 Tu.	4 29	7 43	10 26
8 W.	4 30	7 42	10 31
9 Th.	4 31	7 42	10 36
10 F.	4 32	7 41	10 41
11 Sa.	4 33	7 41	10 46
12 Su.	4 34	7 40	10 51
13 M.	4 35	7 40	10 56
14 Tu.	4 36	7 39	11 01
15 W.	4 37	7 39	11 06
16 Th.	4 38	7 38	11 11
17 Fr.	4 39	7 38	11 16
18 Sa.	4 40	7 37	11 21
19 Su.	4 41	7 37	11 26
20 M.	4 42	7 36	11 31
21 Tu.	4 43	7 36	11 36
22 W.	4 44	7 35	11 41
23 Th.	4 45	7 35	11 46
24 F.	4 46	7 34	11 51
25 Sa.	4 47	7 34	11 56
26 Su.	4 48	7 33	12 01
27 M.	4 49	7 33	12 06
28 Tu.	4 50	7 32	12 11
29 W.	4 51	7 32	12 16
30 Th.	4 52	7 31	12 21
31 F.	4 53	7 31	12 26

**THE TIDES.**—The column of the Moon's Southern gives the time of high water at Parrsboro, Cornwallis, Horton, Hantsport, Windsor, Newport, and Truro.

High water at Pictou and Cape Tormentine, 2 hours and 11 minutes later than at Halifax. At Annapolis, St. John, N. B., and Portland Maine, 3 hours and 25 minutes later, and at St. John's, Newfoundland, 20 minutes earlier, than at Halifax. At Charlottetown, 2 hours 56 minutes later. At Westport, 2 hours 54 minutes later. At Yarmouth, 2 hours 20 minutes later.

**FOR THE LENGTH OF THE DAY.**—Add 12 hours to the time of the sun's setting, and from the sum subtract the time of rising.

**FOR THE LENGTH OF THE NIGHT.**—Subtract the time of the sun's setting from 24 hours, and to the remainder add the time of rising a.m. morning.

### MRS. AINSLEY'S Arthranodyne Liniment.

This magical pain curer having been in use among private friends for a number of years is now offered to the public as a superlative remedy for

RHEUMATIC PAINS,  
TOOTH ACHE,  
NEURALGIA,  
SPRAINS, &c.  
Manufactured by Mrs. Ainsley, Halifax.

Lunenburg, August 20th, 1873.

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Having found the efficacy of your very valuable Liniment in the case of sore throat, which by two applications I was entirely relieved both of the swelling and soreness, I was induced to apply it to the parts affected by a severe attack of Lumbago. After having my back, loin and thigh thoroughly rubbed with the mixture, I was enabled to sleep comfortably and in a few days to walk about the field. I would further add for your satisfaction that my friend with whom I board has been entirely relieved from a pain in his shoulders, which drove him nearly to madness, by freely using the Liniment twice. Also the wife of one of my neighbours who was suffering dreadfully from an attack of acute rheumatism especially in her joints and legs, told me that she had scarcely applied it to parts affected before she felt immediate relief. I have reason to believe the Arthranodyne Liniment the best now in use.

Your obedient servant,

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**NEWEST STYLE**,  
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Our prices are as low as any in the city. Silk Hats made to order by Confectioners Measure, without extra charge.

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## Scientific.

**SOLIDIFIED TEA.**—A novel mode of preparing tea for the retail trade, consists in compressing the leaf into small blocks. The advantages of the solidified tea, as it is termed, consists in a gain, claimed to be from 30 to 40 per cent, in the process of solidifying, both in strength and flavor. The reason ascribed is that the enormous pressure brought to bear on the leaf crushes the small cells, which contain the essential strength and real flavor of the tea, which is, to a great extent, wasted in using tea not so treated. Theine, the essential property in tea, has a tendency to prevent the decay of bone, hence the natural craving after tea by most elderly persons. Now the inventor considers that the process of solidifying thoroughly brings to the surface the theine in tea, thus rendering it medicinally superior to the article not so treated. The many properties thus set free, also insures, it is believed, an efficacious antidote to nervousness. As much strength is obtained in five minutes from the solidified tea, it is claimed, as can be drawn out of the same tea, not solidified, in five hours. The tablet, weighing four ounces, is divided into half ounces, so that the consumer can calculate how much should be used in a week or a month. Thus prepared, the tea is necessarily genuine, and cannot be adulterated. It is sold in a form that makes waste, deterioration, or loss of aroma, it is claimed, impossible. To travellers going abroad, its advantages are plain, as it occupies only one third the space of ordinary tea; and to families, hotel keepers, and institutions, the saving effected by the invention will probably be large.

—Scientific American.

**THE WELDING OF METALS.**—When two pieces of iron are rubbed against each other, fusion takes place between the surfaces of contact, at a temperature below zero. As soon as the pressure ceases, solidification is again produced and the pieces are welded together.

It seems to me that the welding of iron is a phenomenon exactly similar. The two pieces of iron are brought to a white heat, that is to say, more or less near to the fusing point. The repeated blows of the hammer, or the pressure of the rolls, lowers the point of fusion and causes a superficial liquefaction of the parts in contact, and thus welds the masses together; and this, because, like water, iron dilates in passing from the liquid to the solid state. Many other metals are similarly endowed; they all therefore may be welded like iron, if other conditions do not come in to oppose the manifestation of this property. Platinum welds easily at a white heat because its non-oxidizable surface, like that of ice, takes on a superficial fusion. To weld iron successfully, it is necessary that its surface should be clean, that is, free from oxide. Iron containing phosphorus welds more easily than pure iron, because its point of fusion is lower. Steel, which is more fusible still, welds at a lower temperature than iron, but the process is a more delicate one. Silver, too, like iron and platinum, has the property of expanding when it solidifies; but as it melts at a cherry red heat it is easier to form it by casting than by welding. Bismuth and zinc are always included in the same class; but they are so very brittle near their fusing points that no one would think of attempting to weld them either by hammering or pressure. Iron in welding, therefore, only follows the example of water.—*ib.*

What is believed to be the longest rope in the world has been recently on view at Messrs. Frost's walk, Shadwell, England. It is a grapnel rope, 10,000 fathoms long without a splice, and has been made by the Siemens Telegraph Company. It is made of three strands, the diameter of the completed rope being 2 inches.

Storms have their centre. The sea-captain may either steer towards it into certain destruction, or away from it into the strong winds near the circumference that may help him in his course. It is said that only one has yet been found knowing enough of the law of storms, and possessed of the requisite barometer to turn away from the point of peril to that of safety.

At an examination of some girls for the rite of confirmation, in answer to the question, "What is the outward visible sign or form in baptism?" one of them replied, "The baby, sir."

## Agricultural.

**HOW THE INGREDIENTS OF THE SOIL CAN EASILY BE ASCERTAINED.**—A vigorous farmer will seek to ascertain exact knowledge of the ingredients of his soil, and thereafter seek to improve the same. Whoever has attained this degree of knowledge may often do more toward these improvements with a few loads of sand or a few sacks of lime, than large numbers of loads of manure could further it. But how to obtain the necessary knowledge?

It is true, would a farmer minutely ascertain what and how much of every ingredient his soil contains, it would require of him a knowledge that generally only good and experienced geologists possess. But this is not at all absolutely essential; the necessary knowledge a farmer can obtain far easier. The color, smell, or even the handling of a handful of earth will teach him the first lesson—what species of earth his acre contains. If it feels rough and grainy, and will, in a wet condition, not knead, it is a sign that it contains much sand; is it smooth and slippery, and will knead and allow itself to be formed into any shape, it means clay; will it blister and ferment on application of very strong vinegar, it indicates lime. The black color of the earth speaks for good and productive soil. More minutely can the substance of the ingredients be arrived at in the following manner:

Gather from different localities in the field so much of the soil as the real productive soil reaches down; mix it well, dry it and put it in a box, and set it aside until you have leisure for examination. This may be done in the winter. For the operation get a scale, a fine (close) sieve, a couple of fireproof pots, some acid of salt (muriatic acid), which can be had at every drug store at trifling expense. All in readiness, sift the dry earth in order to free it from roots, gravel, &c., and weigh off a pound of it, and deposit in one of the pots, and set it for a couple of hours on red hot coals. This done, and when the earth has glowed out, weigh it again and whatever it has lost in weight is the genuine productive black soil; for this has been consumed by the heat. Mark down the figures of the weight. The remaining earth in the pot is now to be mixed with water and stirred. Through this experiment, first the coarse and then the fine grained sand will settle to the bottom, while the clay and lime will have dissolved and swim. After settling, the slimy water must then be poured gradually into the other pot, and the remaining sand dried and weighed. There is the portion of sand which will again be noted down.

Next for the clay and lime. To this end take your acid, and drop by drop apply it to the slimy liquid in the other pot, until it ceases to ferment. Through the application of the muriatic acid is the carbonic acid of coal extinguished or forced out, causing the fermenting; the lime stays dissolved, while the clay settles to the bottom of the pot. Has the liquid cleared off again, pour it off, dry the clay and weigh it. Add up these figures, and what is lacking of the pound is about the percentage of lime.

If the farmer tries such experiments in the winter days, takes his boys to help him mark down and figure, and teaches to them these lessons, it is just as interesting as it is useful. The boys will the next season try the experiment themselves, mark everything carefully, from which spots, &c., the earth was taken, and await impatiently for the time when to resume their studies. Everything marked correct and careful, the farmer will without sacrifice of valuable time ascertain the condition of his acre.

This is a little piece of chemistry, and our future generations will doubtless study it much more than the present one, and will perhaps wonder how we could prosecute husbandry without more knowledge of this particular branch of science.

In conclusion, a few specifications for the better discernment of wild lands may not be out of place, as in no country so much as just in our own is the farmer liable to come into situations where it is of the greatest importance and value to him, that he should be able to judge raw lands as well as cultivated and improved.

1. Wherever good timber grows the soil is capable of producing good grass and grain.

2. Where timber grows in great variety, there the soil will also bring forth all kinds of grain, vegetables,

fruit, vines, &c., so that the farmer is not forced to raise always the same sort of produce, which would soon exhaust the fertility of his acre.

3. Where the roots of trees appear to spread much, directly under the surface, instead of growing downward, there is an indication of rock bottom, with only a thin layer of good, productive soil.

4. Where many ponds of standing water appear, there is generally to be found too much of tough clay, that permits no water to go through, and which often frustrates all efforts at successful cultivation.

5. The different beds or layers of the earth can best be seen in deep splits, or on the banks of creeks.

6. Crippled and poverty grown timber indicates poor soil, without regard to the mixture of it, and also indicates the absence of the quality known as waterishness or insipidity.

7. Thin and at the same time too tall trunks of trees are a pretty positive sign of a too watery soil and bottom; and when standing on the banks of rivers, on the bark of the trees is to be seen how high the waters therein rise and overflow the adjacent country; and in such cases whether it is safe to live and build on certain localities, &c.

8. Luxurious and close growing grasses on level ground is an unmistakable sign of rich and fertile soil, such as is generally found on the wide prairies of the States and Territories of the West and Northwest.—*Rural New Yorker.*

"In my country," said a Leicester-shire man, "you could turn a horse into a field new mown, and the next morning the grass would be grown above his hoofs." "Pooh! that's nothing," cried a Yorkshireman; "you may turn a horse into a field in York-shire, and not be able to find him next morning."

**CHARCOAL FOR HOVEN.**—There is abundance of testimony to the effect that a small quantity—half to a teacupful of finely powdered charcoal mixed in a bottle of water and given to a bloated animal will afford speedy relief. Let it be remembered.

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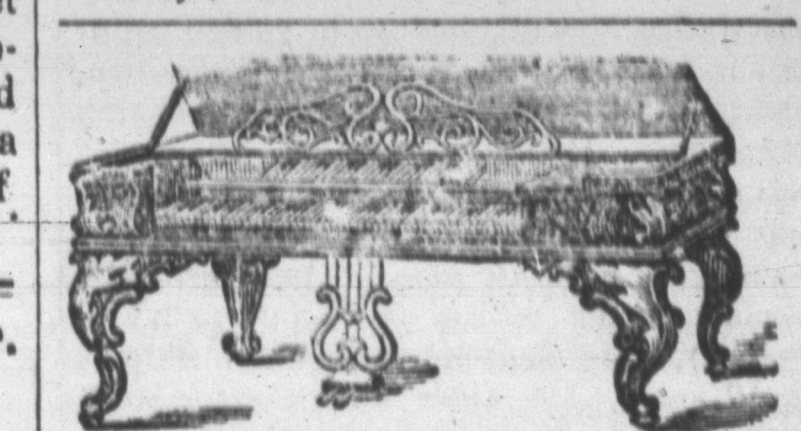
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