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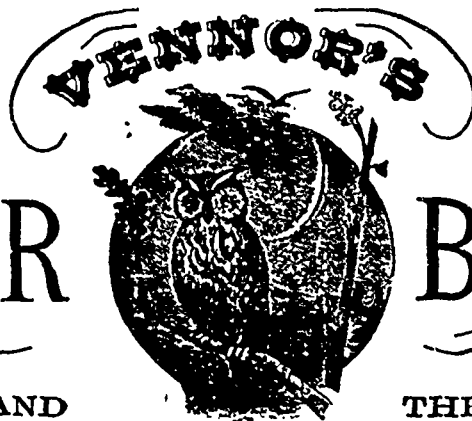
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# WEATHER

FOR CANADA AND



# BULLETIN

THE UNITED STATES.

A PAPER DEVOTED EXCLUSIVELY TO THE WEATHER AND ALLIED TOPICS.  
"Study the Past if You would Divine the Future."

VOL. I.—No. 8.

MONTREAL, SEPTEMBER, 1882.

5 CENTS PER COPY.

## The Canada Jay "Whiskey Jack" "Moose-Bird" "Meat-Bird."

Abundant as is this bird throughout the Canadian lumber region during the entire winter, it is but seldom met with, prior to the months of September or October. I have had enquiries by the scores relative to its nesting habits and nests, eggs &c. from all quarters of the United States, but, heretofore, have failed to ascertain anything of importance. In August last, however, and in response to a letter of mine published in the *Ottawa Citizen*, I received a very interesting communication from Mr. R. J. Brodie Smiths Falls, Ontario, relative to the "Whiskey Jack's" nest and young; in which some remarkable facts are given. Whoever before heard of a nest and young with the thermometer or rather mercury at and below zero. Here is the letter:—

SMITHS FALLS, ONT. July 28, 1882.

Henry G. Vennor Esq. Montreal.

Dear Sir:

About Moose-birds or Whiskey Jacks, on March 11th, 1876 while engaged surveying on the Canadian Pacific Ry. about 40 miles above Ft. Edmonton on the N. Saskatchewan our men while clearing the line, cut down a tree that had a nest and young birds in it. I think there were three in the nest, and apparently were only two or three days old. That morning the thermometer was about 21° Fah. twenty-one below zero. We were all surprised as we had had good steady winter weather. The Indians and Half-breeds of our party had been telling us that those birds brought out their young in winter, but we did not believe it, especially as they said that their nest were very seldom seen. The nest was about 20 feet from the ground in the fork of a poplar and was very warmly made with pieces of rabbits skin. There were a great many rabbits in the country that winter, and lots of their skins were lying about left by the owls and foxes. It was near evening when the men cut the tree down, I got them to prop it up again in nearly the original position, but they were dead in the morning, they fell out in the snow when the tree came down and it was some time before the old birds got an opportunity to warm them. When we were propping up the tree the Indians said that the old birds would not return to the nest after it was disturbed.

R. J. BRODIE.

### Special Notices.

We have just 150 complete back number sets of BULLETIN up to June (inclusive) and these we wish to dispose of to some of our later subscribers, who may desire to have the year entire. Price only 25 cents.

The Editor of the BULLETIN will be at Ferry Beach, Maine, during August and September where correspondents are requested to direct their letters from present date.

## 9th Month.

30 Days.

### SEPTEMBER.

[There will be excessive heat again during the forepart of September, where heat was experienced during the last of August and entry of July.

The month enters on a Friday—an unlucky day of the week, or "so the story goes." Stormy weather is probable on both sides of the Atlantic Ocean.]

#### FIRST WEEK (1st to 7th).

Now, mark. Foggy weather will be experienced along the North Atlantic coast and Gulf of St. Lawrence, with thunder-storms and probably sultry weather over the North Atlantic. Sultry and showery up to 6th day. Cooler change night of 6th or on the 7th, with possibly frosts in New York State and Province of Quebec, Canada.

#### SECOND WEEK (7th to 14th).

Cooler and pleasant weather. Days varying from warm to sultry; evenings and nights generally cool. A favorable week in the majority of sections. Cold in mountainous regions. Probably a good deal of rain in Province of Quebec and Lower Provinces. Stormy on Newfoundland coast.

#### THIRD WEEK (14th to 21st).

A rather stormy and unsettled week, with frequent rain-falls. Windy weather probable in Gulf of St. Lawrence and North Atlantic. Fair seasonable weather in the majority of sections. Wet in northern sections about 20th and 21st. Stormy and cold weather in England and Scotland.

#### FOURTH WEEK (21st to 28th).

Temperature probably fall-like. Windy with very cool evenings and nights (probably frosty) in Northern and Western sections. A good deal of rain in North-West and Western States. Stormy and wet in Gulf St. Lawrence and along North Atlantic coast.

#### CLOSING DAYS (28th to 30th).

In all probability wet and stormy in the majority of sections. Crop reports less favorable than expected. Wretched weather in Maritime ports and Newfoundland.

[NOTE. The wonder is, not that our predictions fail for certain dates, but that they are correct in so many. Ed.]

Aug. 10th.

A man should be careful never to tell tales of himself to his own disadvantage. People may be amused, and laugh at the time, but they will be remembered and brought out against him on some subsequent occasion.

## Special Briefs.

Another hot term yet this season.

Rivers are low in the majority of places in northern sections—they will fill to overflowing by December.

A very wet October in nearly all sections of U. States and Canada with brief intervals of fine and warm weather.

Early and sharp frosts in October—A wintry term in the North-west and West.

November, half fine, half stormy—A brief spell of "Indian's Summer."

December snowy, stormy and wet and cold according to locality—Very stormy on Atlantic (similar to 1881)—Winter in England and Scotland.

Very deep snow-falls Newfoundland, again forepart of Winter (1882-83.)

Unusual rain-fall New York and through Middle States Sea-bound section November and December.

One very cold term in December (forepart) likely to be generally felt.

The Winter of 1882-1883 will be the reverse of "quiet." February will be the finest month after first ten days. March will have its "blow and bluster" at the wrong end.

We are entering and are in a period of great precipitation. In some South-western sections a modification of Noah's Ark may be needed.

### Mist.

The umbrella and the rain are often mist.

"One swallow cannot make a summer," but one frog can make a Spring.

The thermometers have been in high spirits this Summer.

The moon may or may not exert an influence on the weather, but it is a truth that the weather has a considerable influence over mercury.

People are apt to think they "never experience a so hot a summer as this," or so cold a winter, as the case may be. They forget the heat and cold that had almost melted or frozen them in the past, and regard the present temperature and weather generally, as exceptional, if not unparalleled, and what is stranger each individual thinks himself the best authority on the subject. Such people are generally stocked with more conceit than brains and nothing seems to contribute so much to their enjoyment as the self consciousness that that they are wiser than "those government folks."—*Argus, Albany, N. Y.*

What makes life decay is the want of motive.—George Eliot.

Everywhere in life the true question is, not what we gain, but what we do.—Carlyle.

When honor comes to you be ready to take it; but reach not to seize it before it is near.—John Boyle O'Reilly.

## Close of July and entry of August in Kentucky.

### HEAVY RAINS AND FLOODS.

The recurrence of hot, sultry weather, accompanied with thunder storms and heavy showers in Eastern, Central and Western Kentucky, has been both beneficial and injurious to the crops. The wheat in the shock has been damaged by sprouting. East of Louisville there is a good deal of wheat in that condition, as we are informed by Col. Bowman, Commissioner of Agriculture, who came down to this city last Thursday. On the line of the Chesapeake & Ohio railroad, west of this place, the wheat crop has been mostly threshed, and therefore has escaped damage by the weather. This kind of weather will be very damaging to the spring wheat crops of the Northwest.

The rain was greatly needed by the corn crops—and all those fields that had been well cultivated will produce a heavy yield. Those fields in grass and weeds will make a good fodder crop, but will have but little ear corn.

The tobacco crop seems to be really sick. Everywhere there is some complaint about it, both in Kentucky, Tennessee and Virginia. The most despondent are talking about half a crop.

The heavy rains in Central and Eastern Kentucky during the last of July and beginning of August have caused sweeping floods on the banks of the streams running into the Ohio river and all their little tributaries, which have carried away crops, fencing and houses, amounting in value to more than a million of dollars. Some twenty or more lives have been lost, and stone fences were moved away by the torrents like so much chaff before the wind. Houses that have for over thirty years been out of reach of every rise in the waters, have now been carried away by the floods, and even the oldest persons living along these streams say that this last rise was more sudden and more disastrous than any before known.

July 31st.—The Akron special reports great damage to crops in Summit County by yesterday's heavy rain.

### ANOTHER REPORT.

CINCINNATI, August 1.—The *Times-Star* special reports very heavy rains last night in Kentucky. Both branches of the Licking river at Falmouth are higher than ever known, and are rising three feet an hour. Great damage to crops and bridges is apprehended.

### IN CENTRAL KENTUCKY.

A *Gazette*, Lexington, Ky., special says:—Yesterday's storm has caused great damage to the tobacco and corn crops in all the surrounding country. The small streams became torrents and swept away crops, bridges and fences. The Maysville branch of the Kentucky Central Railroad has been unable to run trains, so many of its bridges being gone.

### ON THE KENTUCKY CENTRAL.

PARIS, August 1.—The heaviest rains ever known at this season occurred last night and this morning. The water damaged the corn fields and other crops, and washed away bridges on the main line and Maysville branch of the Kentucky Central. James Rourke, the section boss, broke his leg at the bridge.

### LOSSES ON THE ELKHORN.

FRANKFORT, August 1.—Further particulars of the flood at Peak's mill were obtained to-day. Mr. Garland Breeding, whose house, barn and horse were washed into the Elkhorn, says that on Friday a very heavy fall of rain occurred and another on Saturday, shortly after which he saw a stream of water about seven feet high and 150 yards wide rushing down the ravine. He was compelled to run for his life, and had just reached the hillside when his house, contents, barn and horse were swept away in the torrent. A Mrs. Brock had a barn filled with oats carried away, and a Mr. Sheets a wagon, from which he had just unhitched his horses, and barely had time to escape with his life. There were about fourteen wagons lost altogether, and much other property, which Mr. Breeding thinks will aggregate over \$2,500. An effort is now being made in the city to get up a subscription for the sufferers.

### IN CARROLL COUNTY.

Editor *Farmers' Home Journal*:

GHEENT, Ky., August 1.—The heaviest fall of rain ever known to the oldest people of Carroll county fell last night. The damage to crops of corn, tobacco and small grain was very great. Many tobacco fields are rendered useless. The damage along McCool's and White's Run creeks is immense. All the bottoms were flooded, and crops of every description were washed away or ruined. Stone as well as rail fences were washed down, and all wooden material carried away. The crops upon hill-sides suffered seriously. No estimate can be made of the loss to farmers in the county by that rain. The residence of Mr. Wm. Griffith, near McCool's creek, two miles back of Ghent, was swept down that stream by the maddened current and torn to pieces. It was a small, frame building, from which Mr. Griffith and his family barely escaped with a small part of their household goods. The farmers cannot now safely calculate on more than a half crop of tobacco in the county. The injury to that crop by former rains with that of last night makes the prospects exceedingly gloomy. Upon the highlands and sandy river bottoms the prospect for a good crop of corn is flattering, notwithstanding the wet weather in June and July prevented its being properly cultivated. Hay crops are the heaviest ever known in this country, but much of it has been seriously damaged by the rains. Pastures are exceedingly fine, and farm stock has become fat.

### August Disturbances.

#### AUGUST FLOODS IN MICHIGAN AND OHIO.

Detroit, August 5. A Grand Rapids despatch of last night says: It has rained here almost continually for forty-eight hours, and considerable damage has been done to the streets and sidewalks and the basements of buildings. In the northern part of the county a large quantity of grain is standing out which is badly damaged or spoiled entirely. East of the city, from Ada to Ionia, the bridges are washed out, dams swept away, and the country badly flooded. The Detroit, Grand Haven and Milwaukee railroad suffers serious loss by having the track washed out. No trains have come from the east to day over that route, and none are expected until tomorrow. The construction train, with all available help, left this city for the washout shortly before midnight. The rain is still falling.

A heavy storm at Saranac swept away all the mill-dams and bridges on Mill creek, several buildings, lumber, and other property, also the railroad bridge. Crops throughout the township are badly damaged. Loss estimated at \$40,000 to \$50,000.

The rainfall at Ionia yesterday afternoon and evening was enormous. The water-works reservoirs burst. The streets are flooded, and the cellars and basements throughout the city filled. A heavy washout a mile west of this city on the Detroit, Lansing and Northern railroad will prevent the passage of any trains over that road until Monday. Several culverts within six miles north on that road are reported washed out. The Detroit, Grand Haven and Milwaukee railway bridge at Saranac was carried away.

Columbus, Ohio, August 5. Trains on the Ohio Central railroad are not running farther south than Moxhalla. The loss by the water-spout on Thursday is much greater than first supposed. From three miles north of Corning down to South Bend and up the west branch of the Ohio Central to Buckingham, 18 miles, the track is almost entirely destroyed, and for miles it cannot be observed, the railroad was located there. Most all the live stock in the two valleys have been swept away. It is believed the loss to railroads, mines and private individuals will approximate to half a million dollars.

Lansing, Mich., August 6.—The rains of the past week have caused the entire suspension of the harvest in this section. Two-thirds of the wheat crop are still in the fields, and damaged. Much of it is ruined.

### RUINED CROPS.

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### A HEAVY RAIN-FALL.

Chambersburg, Pa., August 6. Four inches of rain fell here to-day in an hour and a half, and caused damage to the amount of \$5,000 by flooding.

### REPORTED METEORIC SHOWER.

Wheeling, W. Va., August 8. It is reported that a meteoric shower has been prevailing near Fairmount since Thursday. Stones red hot, and varying from an inch to a foot in diameter, falling at intervals of half an hour or less.

Mt. Vernon, August 8.—The storm did considerable damage in Westchester County yesterday. Two boys were reported killed near Armouk.

### GREAT DESTRUCTION OF PROPERTY NEAR LANCASTER, PA.—BRIDGES SWEEP AWAY.

Lancaster, Pa., Aug. 8.—Yesterday's storm was very destructive in the southern end of this county. At Refton, on the line of the Quarryville railroad, the railroad bridge was badly damaged and the track washed away. The county bridge, near by, over Beaver creek, was carried half a mile down the stream, which rose 12 feet in an hour. The iron railroad bridge at Cabeen's station was damaged and 100 feet of track washed away, and a bridge on a branch road near the station lifted from the piers. Traffic is completely suspended. A number of exposed cattle were killed by lightning. The growing tobacco in the line of the storm was completely destroyed, entailing heavy loss on the growers.

### DESTRUCTIVE RAIN STORM IN OHIO—EXTENSIVE

#### INJURY TO PROPERTY.

Cleveland, O., Aug. 8.—A Shelby special notes that a waterspout flooded a district two miles wide near that town last evening, destroying crops and creating consternation among the people. The flood subsided almost as rapidly as it rose. One wave two feet high swept down the valley with a terrifying noise. The frequent occurrence of these extraordinary phenomena in this part of the state during the past 10 days excite much comment.

### HEAVY RAINS AT TROY AND VICINITY.

Troy, N. Y., Aug. 8.—The rainfall for 24 hours ending at noon to-day, is 2½ inches. The farmers are rejoiced as it will save the corn and potato crop, which were suffering from the long drought.

### A SHOWER IN NEW HAMPSHIRE.

Concord, N. H., Aug. 8.—A smart 10 minute shower at noon and a moderate rain this evening have broken the protracted drought of 19 days. There have been showers in all directions, with vivid lightning.

### DISASTROUS STORMS.

Cleveland, Aug. 9.—Reports continue to come in of the widespread devastation by the recent storms in northern Ohio. A special from Wakeman says the hail in that section, yesterday, cut down the crops and gardens. Thirty bridges were swept away in Holmes County. Oats were totally destroyed; potatoes nearly all ruined; corn greatly damaged. Whole farms on the hillsides were denuded of the soil as well as crops. The decaying vegetable matter on the bottom lands has become offensive, producing sickness. Barns in many places were struck by lightning and burned.

### Special to the Cincinnati Commercial.

Milwaukee, Wis., August 8.—A most terrifying thunder-storm passed over the city at an early hour this morning, doing a great deal of damage. Twelve houses were struck by lightning and several were very badly damaged. Wm. Kappeler, an engineer in Plankinton's slaughter-house, was killed. Lightning struck the place demolishing a forty feet wing and burying the man in the ruins; a half dozen horses and cattle were killed. The rainfall was three inches in four hours and the city was literally flooded, streets torn up, and thousands of dollars' worth of goods in basements destroyed, the local Waukesha train on the Chicago and Northwestern Railway was derailed by a washout and the engineer and fireman were fatally injured. All of the passengers except two escaped, and they were badly injured. The total loss from the storm will amount to \$100,000.

**MORR DAMAGE IN HOLMES COUNTY.**

Millersburg, O., August 3.—It seems that we are destined to be swept away by the floods. To-day another tremendous flood of water came pouring down upon us. This time it approached from the southeast, and was preceded by a heavy roaring sound. Directly it was upon us in all its fury, and the streams again went wild. If this thing is kept up much longer there will be no oats to cut, as they will be all under mud. The train due here at 6 o'clock this evening is detained nine miles north of here by reason, so stated, of a bridge being washed out. The east and southeast part of our county suffered the most from the storm to-day.

**DAMAGE IN MUSKINGOHM COUNTY.**

Zanesville, O., August 3.—The storm last night destroyed a large portion of the corn and grass crop in this county on the bottom lands. Chap's Run bottom, a few miles west of this city, was completely submerged. Acres of corn were found covered with mud, this morning, ten inches deep. A hay rick belonging to William Snipe, containing several tons of hay, was struck by lightning and entirely consumed by fire. The loss will aggregate several thousand dollars. John Marcellus and Benjamin Leslie, of Springfield Township, are among the heaviest losers.

**DESTRUCTION OF CROPS.**

Newcomertown, O., August 3.—A terrible water spout burst over this section this morning, deluging fields of grain, and washing away fences, &c. Phillips Run and other smaller streams became like rivers in a short time, washing down immense logs sixty feet long, and covering the ground in some places with water to the depth of fifteen feet in a few moments. The water rushed with such force into Mr T. Crouch's house, near here, that it upset the stove, cupboard and furniture, drowned all the cats, and the family only escaped a like fate by taking to the second story.

**BARNs DESTROYED BY LIGHTNING.**

Somerseset, O.—August 3.—A fearful thunder-storm passed over here last night, the lightning striking barns and grain stacks in several localities. A barn filled with new-mown hay, belonging to A. Ramsey, was burned to the ground, with a loss of several hundred dollars, one was burned at New Reading while several farmers report the loss grain stacks from the same cause. A heavy wind and rain-storm passed over Junction City to-day, which unroofed cars standing on the B. & O. Railroad.

Crestline, O., August 3.—During the storm this afternoon the lightning struck the barn of William Price, near North Robinson, this county, setting it on fire, and it was entirely consumed, with all his wheat and hay. Loss \$1,000, fully covered by insurance in the Buckeye, of Shelby, Ohio.

Leesburg, O., August 3.—During the storm this evening a large frame barn on the farm of Allen Ocherman, three miles west of town, was struck by lightning, and with its contents, entirely destroyed. Loss \$1,000; no insurance.

Detroit, August 4.—Heavy rains during the present week caused floods, carrying away bridges, dams, overflowing lowlands, and damaging wheat in the stock. Loss, between Ionia and Grand Rapids, \$50,000.

New Lexington, Ohio, August 4.—The unprecedented rain last night produced a sudden flood in the valley between Rendville and Cornng. The water swept everything before it—railroad track, cars, horses, barns, fences and live stock. Great loss of life is feared. The damage will reach from one to three hundred thousand dollars.

Fremont, O., August 4.—A bridge over Green Creek was undermined by the flood and went down with a freight train this morning. Loss heavy. No one hurt. A portion of a passenger train fell through the bridge at Green Sprinds last night. One man was drowned and a number of others injured. Last night the Pacific express on the Pittsburgh and Fort Wayne Railway ran into a wash-out twenty miles from Canton. The locomotive and postal car were thrown on one side. Two baggage cars ran into an excavation. Nobody was seriously injured. Thirty trains were blockaded between Alliance an Orrville this morning, but were started later.

New York, Aug. 7.—The storm this afternoon extended through a large portion of Pennsylvania, New Jersey and this state. At Harrisburg, Pa., a barn was burnt this afternoon; also one in Easton, Pa., and a dwelling. Northampton, Pa., was flooded and much damage done. At Scranton, Pa., houses were unroofed, trees uprooted, cellars flooded, and the scaffolding of the new court house struck by lightning. Several trees were struck by lightning at Long Branch this afternoon and the avenue badly washed by the rain.

Lynchburg, Va., Aug. 7.—The recent heavy rains in this vicinity and the southwestern section of the state flooded many of the smaller streams and wrought great damage to the crops, fencing and property. Near Crooketts, Wythe county, 700 yards of the Norfolk and Western railroad track was washed out. The Richmond and Allegheny railroad track also suffered considerable damage at several points.

Middletown, N. Y., Aug. 7.—Lightning struck two houses here to day, but injured only one person slightly. It struck a barn and burned it, with its contents.

Laredo, Tex., Aug. 7.—There was a heavy rain-storm all last night extending from Monterey, Mexico, to Corpus Christi, Texas.

**Windstorms.**

This subject continues to excite considerable interest among all classes of people, and in all discussions thereon one thing is predominantly evident, and that is the general recognition of tornadoes, cyclones and windstorms generally, as a class of evils from which there is no escape for the property exposed. Hon. J. A. Jameson, of Chicago, who has had before him various reliable data on the subject, amongst others the testimony in a suit at law relating to a tornado that swept over the southwestern portion of Wisconsin, May 28, 1873, and the report of Sergeant Finley, of the U. S. Signal Corps, to the War Department, on the series of tornadoes that ravaged the States of Kansas, Nebraska, Missouri and Iowa, on the 29th and 30th of May, 1879,—13 in all—from a careful examination of these data, he adduces the following conclusions:

First—While there are exceptions, tornadoes in general approach from the southwest—that is, their general line of progress is from southwest to northeast. Upon that line their movement is in irregular circles upon the surface of the earth, or above it, apparently according to the very nature of the obstacles they meet with.

Second—In a great majority of cases the tornado is preceded by ominous clouds in the northwest and southwest, which finally rush together, and it is their conflict which appears to give rise to the tornado. Doubtless, when the direction of the tornado is different, the aggregations of clouds giving rise to it would have appeared in different quarters.

Third—Great and sudden changes of temperature are frequently observed—hot winds rapidly succeeded by cold, or hot and cold appearing almost simultaneously.

Fourth—The time intervening between these phenomena and the onrush of the tornado, is generally not long, frequently but a few minutes. Sometimes it approaches from a clear sky, almost without warning, until it strikes with the roar of a dozen railroad trains. In most cases, however, there is ample time to fly to a place of refuge, if one be known to exist near at hand.

Fifth—While thunder, lightning and rain are nearly constant accompaniments of tornadoes, neither the rain nor the lightning seems to be the cause of the damage resulting from them. In a few cases the ground is deluged with rain, but commonly not in such quantities as to injure man or beast. So in regard to the lightning; vast quantities of electricity are developed by the tornado, but its tension is slight, and, in all accounts I have seen, but a single instance is recorded of a building injured, and in no case has a person been killed or injured by it.

Sixth—The destructive energy of a tornado seems to lie in the wind set in violent rotary motion by opposing hot and cold currents of air impinging upon each other.

Seventh—Buildings of brick and stone are generally, but not always, safe from tornadoes. In the late tornadoes in Iowa, whose violence seems wholly without example, structures of brick and stone above the surface of the ground were in cases destroyed.

Eighth—Wooden buildings are frequently, not to say generally, destroyed; but they are often merely dislocated or overturned.

Ninth—Of persons remaining in their houses, a large proportion are bruised, and many crushed to death. So of those who are in the streets or fields, few escape uninjured, and many are killed.

Tenth—Most important of all, in not a single case recorded, so far as I can find, have persons who made a timely flight to their cellars being killed or injured. It would be too much to assert, probably, that such cases have not happened; but the testimony is overwhelming that the cellar is, in this chief of all physical calamities, a sure place of refuge. In one case, the whole family being safely gathered in the cellar, an old grandmother ran up-stairs in search of a child supposed to remain behind; she was killed and all but her were saved.

Concluding an article on this subject of windstorms, a Chicago daily paper says: "Practical information has yet to come how to announce their approach, so that people may have time to prepare themselves, and how best to guard against their terrible power. Science should not rest content until every thing possible has been done to protect life from their fury. There is no hope that property can be saved against the attack of a monster so terrible that it can twist great trees up by the roots, and hurl huge rocks through the air, but something may yet be devised that will greatly reduce the loss of human life, first by giving timely notice, and then by suggesting some safe shelter."

And the Chicago *News*, in reply to a suggestion of a contemporary, that concrete buildings would be exempt from the ravages of the dreaded windstorm, says:

"That concrete buildings of the ordinary thickness of brick would, for an instant, withstand an Iowa or a Kansas cyclone like that at Grinnell, is not at all probable. Those cyclones will clear pathways through the heaviest oak forests hundred of yards in breadth, as clean as a mower will cut down the standing grass. Probably no building, except one pyramidal in form, can resist their terrible onslaughts."

In the face of the terrible and apparently unavoidable destruction of property caused by those fearful storms, prudence will gladly avail itself of the opportunity to protect property by insuring it against tornadoes, windstorms and cyclones, a form of insurance authorized by one of soundest and most conservative insurance companies, perhaps the best known of all among the farmers of the Northwest.

**Wit and Wisdom of John Ploughman.**

- Keep such company as God keeps.
- Old foxes are caught at last.
- To desire happiness is natural; to desire holiness is supernatural.
- A good friend is better than a near relation.
- Boast not of your wisdom; Satan knows more than you.
- If the love of God sets us at work, the God of love will find us wages.
- Fretting cares create gray hairs.
- Keep your hand out of the fire, and yourself out of a quarrel.
- When an old dog barks, there's a reason for it.
- Open doors invite thieves.
- The breath of prayer comes from the life of faith.
- Make your pudding according to your plums.
- Be not all rake nor all fork, all screw nor all cork.
- If you say nothing, nobody will repeat it.
- Do not blow hot and cold with the same breath.

In life it is difficult to say who do you most mischief, enemies with the worst intentions, or s with the best.—Bulwer Lytton.

### How to Foretell the Weather.

Mr. A. J. DeVoe, of Hecksensack, N. J., sends to the Farmers' Club of the American Institute the following ten short rules, by the use of which, it is said, one in any part of the Northern Hemisphere (north of latitude fifteen) can form an accurate opinion of how the wind and weather are progressing for a hundred miles around him.

1. When the temperature falls suddenly, there is a storm forming south of you.
2. When the temperature rises suddenly, there is a storm forming north of you.
3. The wind always blows from a region of fair weather towards a region where a storm is forming.
4. Cirrus clouds always move from a region where a storm is in progress, towards a region of fair weather.
5. Cumulus clouds always move from a region of fair weather, towards a region where a storm is forming.
6. When cirrus clouds are moving rapidly from the north or north west, there will be rain in less than twenty-four hours, no matter how cold it may be.
7. When cirrus clouds are moving rapidly from the south or south-west, there will be a cold rain storm on the morrow if it be summer, and if it be winter there will be a snow storm.
8. The wind blows in a circle around a storm, and when it blows from the north the heaviest rain is east of you; from the south, the heaviest rain is west; from the east, the heaviest rain is south; from the west, the heaviest rain is north of you.
9. The wind never blows unless rain or snow is falling within one thousand miles of you.
10. Whenever a heavy white frost occurs, a storm is forming within one thousand miles north or north-west of you.

### Popular Weather Sayings.

UPON WHAT THE WEATHERWISE OF NEW HAMPSHIRE BASE THEIR "PROBABILITIES."

Correspondence of the Boston Journal.

The Chief Signal Officer at Washington is seeking material for a collection of "popular weather sayings, proverbs and prognostics used throughout the country, and by all classes and races, including Indians, Negroes and all foreigners." The readers of *The Journal* may be interested to see a collection made in New Hampshire for his use. The writer does not vouch for the correctness of the prognostics. He gives them as they were given to him, and the reader may judge for himself as to their value. The divisions made by the Chief Signal Officer are twenty-three in number.

1. The sun. A halo around the sun indicates that there will be rain or snow soon. If the sun rises clear and soon goes into a cloud it will rain before night. If the sun shines while it rains, it will rain the next day. A sun dog, or mock sun, indicates that there will be stormy weather very soon.

2. The moon. "One Saturday change is enough for seven years," as there is always a severe storm after it. The nearer the time of the moon's change to midnight, the fairer will the weather be during the seven days following. The nearer to midday the phases of the moon happen, the more foul or wet weather may be expected during the next seven days. The space for these calculations is two hours before and two hours after midnight and noon. A halo around the moon indicates a coming storm. The number of stars seen within the circle shows the number of days before it will occur. If the new moon stands upright, so that the crescent will not hold water, there must be rain, as the water must all descend. If the new moon is horizontal, so that the crescent will hold water, there will be rain, as the water collected will be poured down. Grain should always be sown in the new of the moon, that it may grow with the increase of the moon. The same rule should be observed in planting flower sops. To kill bushes, they should be cut after the full of the August moon, when the sign is in the heart. Pigs and hogs should always be killed during the increase of the moon, or the pork will diminish in bulk while cooking.

8. Stars and meteors. The Aurora Borealis always indicates a change of weather, and if it is very red the weather will be very cold. If there are no falling stars to be seen on a bright summer evening, you may look for fine weather. If there be many falling stars on a fine summer's eve, you may expect thunder and heavy rain.

4. Rainbows. "If you go to the foot of the rainbow where it touches the earth, you will find a pot of gold." When there is a rainbow in the morning, there will be rain soon. When there is a rainbow at night, it will not rain the next day.

"A rainbow in the morning  
Is the sailor's warning.  
A rainbow at night  
Is the sailor's delight."

5. Mist and fog. A sheet of fog along the river in the morning indicates that the day will be a hot one. When the fog settles on the mountain in the morning, it will certainly rain before night. "When the fog goes up the mountain, you may go hunting. When it comes down the mountain, you may go fishing." In the former case there will be fine weather; in the latter, rain.

6. Dew. When you feel the dew falling heavily in the evening, you may be sure it will be fair next day. When in the morning you see the ground covered with webs, covered with dew and no dew on the ground around, it is a sign of rain before night, for the spiders are putting up umbrellas. But others say, "When the spiders put out their sun shades, it will be a hot day."

7. Clouds. If the sky is very red in the west in the evening, the weather will be fair next day. If it is red in the east in the morning, it is a sign of a storm. If in the evening it is deep red low down in the west, and black above, it is a sign of wind. If very black, a very high wind. A mackerel sky in the west indicates rain. If there be a sheep sky, or white clouds driving to the northwest, it will be fine for some days.

"Great clouds like an old mare's tail,  
Make great ships carry low sail."

8. Frost. White frosts on three successive nights indicate a thaw. If the ice crack much, you may expect the frost will continue.

9. Snow. When there are black clouds in the north, there will be snow. If on a fair day in winter a white bank appears low in the south, it is a sure indication of snow very soon. If snow fall in large flakes, and they increase in size, there will be a thaw.

10. Rain. If rain commences before daylight, it will hold up before 8 a.m. If it begins about noon, it will continue through the afternoon. If not till 5 p.m., it will rain through the night. If it commences after 9 p.m., it will rain the next day. If it clears off in the night, it will rain the next day.

"If it rains before seven  
It will stop before eleven."

If the wind is from the northwest or southeast the storm will be short; if from the northeast, it will be a hard one; if from the northwest, a cold one; and from the southwest, a warm one. After it has been raining some time a blue sky in the southeast indicates that there will be fair weather soon. After it has been raining some time, "if you see enough blue in the west to make a Dutchman a pair of breeches, it will soon clear off."

11. Thunder and lightning. "If it thunder in the morning it will be fearful before night." "Winter thunder is to old folks death and to young folks plunder." It is said that persons in consumption have died during a thunder storm.

12. Winds. A south wind brings rain, a north-east wind a severe storm, and a northwest wind fair weather. If the wind veers round with the sun there will be fair weather. If the wind starts up while it is raining it will blow the rain clouds away and there will be fair weather.

13. Animals. The following are said to be signs of rain: If bats fly low and come into the house; if cattle lie down in the morning and chew the cud; if horses toss their heads, sniff, and are very uneasy; if rats and mice are restless and squeak; if swine are uneasy, grunt loudly and squeal; if cats and dogs eat grass and sheep spring about more than usual. So also the proverbs:

"When the ass begins to bray,  
We surely shall have rain to-day."

And

"When the donkey blows his horn,  
'Tis time to house your hay and corn."

When in winter pigs rub against the side of their pen it is a sure sign of a thaw.

14. Birds. Before rain cuckoos sing, ducks and other fowl pick up and oil their feathers, guinea fowls are noisy, owls hoot, peacocks squall, quails whistle, crows caw, swallows fly low and water-fowl scream and plunge into the water. If birds flock together in September, it is the sign of a coming storm. If crows are seen going south in the fall, it is a sign of a colder weather; but if they go north, there will be warmer weather. If wild geese come from the north early in the fall, it is the sign of an early winter; if they go north early in the spring, it is a sign that the winter is broken. The Phoebe bird, or pewee, sings before warm weather.

15. Fish. Fish bite best before rain.

16. Reptiles. Frogs and tree toads peep before rain. If a leech be kept in a glass jar partly filled with water, while it lies curled up at the bottom of the jar there will be fair weather, but, before rain, wind or snow it will be agitated and will rise to the surface, and if it comes entirely out of the water you may expect thunder.

17. Insects. Before rain ants are bustling and active, and will carry their eggs from place to place; bees are busy, but do not go far from their hives; crickets sing and try to get into the house; flies are very annoying and bite sharper than usual; and spiders spin gossamer webs in the air. If ants clear their holes and pile the dust high before 11 a.m. it will be fair the rest of the day.

18. Trees and plants. If the leaves of maples and other trees turn up so as to show their under side it is a sign of rain. Dandelions, tulips and other flowers close up before rain.

19. Various objects. When smoke beats down from the chimney, it is a sign of a storm. When it goes straight up, it is an indication of fair weather. If bells, steam whistles, and other sounds are heard more distinctly than usual, rain is near. Before rain, tables may be heard to crack, violin strings will break, corns will be more troublesome, rheumatic pains more intense, and the places where broken limbs have united will ache.

20. Days of the week. If the sun sets clear on Friday night, it will rain before Monday night. If the first Sunday in the month be stormy, all the other Sundays in that month will be stormy also. But others have it, that two other Sundays will be stormy. Important business or agricultural operations should never be commenced on Friday or Saturday. "When there are three days cold, expect three days colder." The first three days of the dog days rule the other dog days, that is, if they be rainy, the others will be, and if they be dry, so will the others be.

21. The months. A thaw may always be expected in January.

22. The seasons. If the spring is wet and cold, the autumn will be hot and dry.

23. Other sayings. "All signs fail in a dry time." W. H.

### Meteorological Divisions of the United States.

In accordance with the proposed arrangements, the terms "New England," "Eastern," "Western," "Pacific," and other names hitherto descriptive of the States, will have to be abolished, and the following classification adopted and adhered to in our predictions:—

Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, New York, Connecticut, New Jersey, and Pennsylvania are to be called the North Atlantic States; Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia and Florida will be classed as South Atlantic States; Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, Dakota, Nebraska, and Kansas will form the Northern Central; and Kentucky, Tennessee, Alabama, Mississippi, Louisiana, Texas, Indian Territory and Arkansas the Southern Central States, or "Division." All States and Territories west of the Rocky Mountains are termed the Western Division. The term "Division," is used by the Bureau instead of "States" so that the Territories may be included. This plan may have to be changed when all the Territories are admitted into the Sisterhood of States.

**September Attractions.**

LOUISVILLE, KY.

At Louisville will be unusually great and brilliant.

The Louisville Fair Association has now \$10,000 cash in hand, which will be disbursed in premiums on live stock. Commencing on the 12th of September and continuing five days.

The Louisville Jockey Club, under the successful and popular management of Col. M. Lewis Clark, will have a ten days' meeting, commencing on the 20th of September, during which time hundreds of thoroughbreds will contest for purses amounting in the aggregate to fabulous sums. There will be numerous races run, and a great crowd will certainly attend.

To both the Fair Grounds and Race Course there will be an additional street car line running, and ample transportation facilities will be furnished to each place.

We believe that the Louisville Exposition will be opened on the 10th of September, and continue four or five weeks, but so far we have seen no official announcement of the opening.

Railroad fares will be reduced to about half the usual rates.

It is suggested to hold the annual meeting of the Kentucky Horticultural Society in Louisville on the 26th and 27th of September. Essays and other papers are solicited from members.

The Bee-Keepers Convention is also to be held in Louisville, and the 28th and 29th of September have been suggested as a suitable time.

These numerous attractions will fill this city with an overflowing tide of people, and they will all be cordially welcomed and comfortably accommodated.

**The Forestry Congress in Canada.**

(Cincinnati Commercial.)

It will not be many years before there will be a demand in this country for trained foresters, as there is now in Europe. In Europe there are several very large schools devoted wholly to forestry, and in a large number of others forestry forms an important branch of the course of study. In this country not only are there no schools of forestry, but forestry forms no part of the regular course of study. There is in, at least, one College, Ann Arbor, a special class in forestry; and that, so far as we have ever heard, is the extent of the school instruction in this important subject. A knowledge of forestry will be of far more practical value than of geology or botany, and its study equally pleasant. The colleges of the country would do wisely to include it in their courses of study, and for the purpose of a text-book Hough's "Elements of Forestry" is excellently adapted. A few weeks use of it in the public schools of the farming districts would be of incalculable value to the country in the future. It is well known that the man who has cleared a farm out of the forest rarely or never plants a tree. For this reason we must mainly look to the rising generation for the restoration of our forests, and could a copy of this valuable book be placed in the hands of each farmer's boy it would do more to effect the planting of forest trees and at the same time attach them to rural life than almost any thing else could do. Once get a boy interested in watching the growth and development of a grove of oaks, or elms, or beeches, or maples, and there is no danger of his being drawn away by the seeming pleasures of city life.

The forests east of the Mississippi are rapidly disappearing. West of the Mississippi millions of trees are being planted, but East of it scarcely any. In deed, more are being cut down than are planted. We hope that those who appreciate the importance of preserving our forests will do all in their power to assist the American Forestry Congress in its good work.

The great need in this country has long been a book that would comprehend the whole subject. There is comparatively little accessible information upon this subject. Valuable pamphlets have been published by Dr. John A. Warder, B. G. Northrop, G. B. Emerson, J. G. Knapp, N. H. Eggleston, and others. Hon. George P. Marsh devoted a part of his

book on "Man and Nature" to several phases of forestry, and the Government has published several reports upon it; but until Robert Clark & Co., of this city, this week issued Hough's "Elements of Forestry," there was no book in the English language that completely covered the entire subject. This book supplies the need so long felt. In it the farmer who desires to plant trees can find the very information he needs, and the economist that which will convince him of the importance of keeping up the forest area of the country. It treats of soils and their preparation, of climate and meteorological influences; of the various methods of propagating forest trees; of the structure and function of the various parts of the forest tree; of European plans of forest management, of the cutting and seasoning of wood; of fuel; of charcoal; of wood gas; of forest fires; of insect ravages in woodlands; of processes for increasing the durability of timber and for improving its quality; of the use of wood in the manufacture of paper; of acts of Congress relating to timber rights—in fact, of everything one interested might be in search of, unless it were details which would need be sought for elsewhere.

The next meeting of the American Forestry Congress will be held at Montreal August 21 and 22, 1882. This Congress was organized in Cincinnati in April last, and although it did not create the sensation some who were interested in it expected, it was far from being a failure. The indications are that the Montreal meeting will be of still greater importance. It will be held the same week of the meeting of the American Association for the Advancement of Science, and the favors usually enjoyed by the members of the Scientific Association will doubtless be tendered the members of the Forestry Congress. The Canadians having the arrangements for the meeting in charge are men of influence, and are enthusiasts on the subject of forestry.

**Sun Spots and Floating Ice.**

Prof. Fritz of Zurich, who has studied the years when floating ice was most abundant in the lower latitudes of the Atlantic, declares that sun spots and an abundance of detached icebergs are synchronous. From 1788 to 1870, epochs of maximum sun spots, and there have been 10 such periods, have been pretty nearly the years of greatest frequency of floating ice. The masters of the North German line of steamers, who, having kept detailed accounts of ice met with every month in the Atlantic, shows that from 1860 to 1869 very similar weather, with pretty nearly the same temperatures, was found, and that during these years the greatest amount of floating ice was found. Now, going back to the cause, the present temperature is not caused by a cold Arctic winter, but rather by a warmer one, "which has prevailed pretty uniformly over the north Atlantic and northwestern Europe, and which has detached a larger proportion than usual of Arctic ice fields." Sun spots may be made to explain innumerable things other than meteorological ones, for a great many periods of human strife show some co-incidence with these solar outbursts, commencing with 1788 and ending with 1882.

The weather has not been favorable to good crops in England, but the London press does not grumble about that. If the rain rots the wheat, the people of the United Kingdom know where they can get some more. But they do mourn over the obstruction to manly British out-door sports, and the Telegraph sighs: "Bad weather has so far well-nigh ruined the cricket season. Torrents of rain, dead wickets, a sodden turf, mashed up with sawdust, draw matches, chilled spectators, and indifferent sport have all helped to spoil the pleasure that this capital game affords. But it is of little use crying over spilt milk. The special days allotted to the famous matches are over and cannot be recalled. Vexing as it may be to see, now that St. Swithin's day has passed, a bluer sky, a fairer prospect, a turf of emerald green luxuriant after the recent rains, a clear pure atmosphere, and a constant light, it is with cricket as with other amusements—we cannot eat our cake and have it. So far as London is concerned, we shall see little more good cricket this year." This is sad indeed. Why should England think of such weather, if she had a dozen league base ball nines in the field?—Boston Post, Aug. 4.

**July at Different Points.**

—A correspondent from the Columbus Miss., writes that the weather of July there was cool to cold and wet and that heavy coverings were necessary at night. He further states that our predictions have been "marvelously accurate" and have become a "necessity" to the planters and farmers in that section.

—A writer from Mount Ida, Ark., mentions that July was like that of 1880. It was a cool month; the mean temperature being the lowest in ten years.

—Louisville, Ky., rejoiced over a cool, pleasant, and particularly agreeable month and asked "where is your torrid heat?"

—In Canada the heat was extreme but was of very brief duration.

—In Main and Massachusetts there was a period of drought and heat, ending in severe thunder storms and heavy rains at the close of July and entry of August.

—On the whole the month of July was a pleasant and favorable one in the majority of sections.

The weather at Mount Washington during the month of July was marked by a lower mean temperature and a greater rainfall than the average for the corresponding month in the past eleven years. The mean temperature was 46.° C., the highest was 60° and the lowest was 29°. There were frosts on the first four days of the month. Rain or snow fell on 24 days, and the total precipitation was 10.03 inches.

**MONTHLY WEATHER SUMMARY.**

The meteorological summary for Cincinnati for July, just furnished by the Signal Office, shows the highest temperature of the month to have been 90° on the 1st, the lowest 58, 2° on the 6th. The prevailing direction of the wind was northeast. There were at Cincinnati during July nine clear days, sixteen fair days and six cloudy days. Rain fell on fourteen days, and there was but one cloudy day without rain. The average July temperature and the total amount of rain fall as compared with past years was as follows:

	Av. temp. Degrees.	Rainfall Inches
1871	77.1	2.78
1872	79.3	7.01
1873	77.7	3.94
1874	79.2	3.42
1875	77.1	9.63
1876	79.6	6.91
1877	77.2	4.25
1878	81.6	4.32
1879	81.3	2.75
1880	76.6	2.46
1881	80.8	3.12
1882	74.4	2.91

The hard rains seriously damaged the crops throughout Northern Ohio. In Columbiana County a small stream rose so rapidly that it swept away and drowned a negro woman and three children who lived on its banks.

At Louisville, Ky., during the last two months 9.61 inches of rain fell, and there was rain on thirty-six of sixty-one days. During the same months last year there was rain on but fifteen days, and the total rainfall amounted to but 5.96 inches.

An English astronomer has recently stated that, while the day is gradually lengthening through lunar action on tides, the earth reacts on the moon and drives it away further and further. Looking backward, he says, the moon must have been nearer and nearer the earth, and, indeed, at one epoch in the remote ages of the past, the two bodies must have been very close together. Then the day was but three hours long, instead of twenty-four. At that distant period the earth rotated once every three hours, and the moon revolved with it in the same time. So near to the earth was the moon in those ages, says this writer, that if there had been oceans then as there are now, the tides must have been 316 times as great as now, and, rising to an immense height, would have swept over all England.

Three removes are as bad as a fire.—Benjamin Franklin.

### The Science Meeting in August.

[*Montreal Witness.*]

The American Association for the Advancement of Science will meet in Montreal during the last week of next month. This Association since its formation, thirty-one years ago, has attained a growth and done a work which fairly entitles it to comparison with its famous prototype, the British Association, founded twenty years previously. The eminent naturalists, chemists, botanists, astronomers, electricians and others who belong to these Associations usually give the results of their best original work to the public for the first time at these meetings, so that the papers read, the experiments conducted, and the specimens and models shown at these gatherings stimulate interest and enquiry not only among the membership of the Association but also among the thoughtful and studious in the cities honored by the assembly. In migrating, too, annually from place to place, the Association becomes acquainted with the scenery, the geological features and the special industrial wealth of all parts of the continent, and great good must accrue from the trained observation of specialists in mining, pisciculture, forestry and manufacturing in this broad Canada. It has been noticed in the United States that educational and scientific work invariably receive a marked impulse in the city selected as a place of meeting by the Association. With these benefits before us, we should not, as citizens of Montreal, be wanting in performing our part toward making the August meeting a success. Our City Council have made a liberal grant to aid in the necessary expenses of reception, and our steamship, railway and steamboat lines have made liberal concessions, and in some cases agreed to give free excursions to our distinguished visitors, but our citizens generally have something more to do. August is the month when our hotels are usually overflowing with the tide of summer travel, and the two principal ones finding their accommodation insufficient are extending their premises, so that our visitors, who are expected to number twelve hundred probably, must be provided for in the main by hospitality. The special committee formed for the purpose of obtaining this hospitality have during the past month sent several hundred circulars to the principal householders of the city soliciting it, and the comparatively few responses received so far make the committee fear that when our scientific friends arrive many of them will be unprovided with shelter. Should this fear be realized the effect would be greatly to mar the pleasure and interest of the most distinguished meeting ever held in Canada. We trust that our readers, as far as their opportunities may permit, will do what they can toward the reception of the Association. In many cases where a large house is deserted for the summer by all its inmates except one or two, it may be impossible to offer our guests more than lodging, still such an offer will relieve the main necessity, as the hotels, restaurants and boarding-houses can provide meals for hundreds whom they cannot lodge. Mr. J. Bemrose, Secretary of the Special Committee, may be addressed at the Natural History Museum by any householder having accommodation to offer.

There are three wicks to the lamp of woman's brain—brain, blood and breath. Press the brain a little, its light goes out, followed by both the others. Stop the heart a moment, and out go all three of the wicks. Choke the air out of the lungs, and presently the fluid ceases to supply the other centers of flame, and all is soon stagnation, cold and darkness. —Oliver Wendell Holmes.

### Weather Factories.

*International Review.*—It is curious how many myths of ancient times have been surpassed by the realities of the present age. Prometheus pilfered the fire of Jove. We have got hold of his thunder, too. Our Hesperian gardens produce freedom and diamonds, as well as gold. Our traveling Arions need not bestride a dolphin to defy the winds and the tides. The good steed Bayard would be eclipsed by the iron horse as the darts of Ostris by a minnie ball, the *ultima thule* has become a half-way station of our whaling fleet. Tethys and the Oceanides could foretell a sea-storm; we predict all sorts of weather, and begin to manufacture them.

The Ashantees are not the only people who have attempted the problem of weather generation. Centuries before the foundation of Rome the Etruscans had a temple of the Apollo Hiemalis, with a grove, where the malevolence of a backward spring was propitiated by peculiar mysteries, and Columella, the Roman Huxley, ridicules the inhabitants of a little oasis in the Province of Numridia, who tried to break the spell of a summer drouth by flogging a serpent. What would Columella have said about a systematic attempt to improve the weather of a whole province? A few months ago (September, 1881), the St. Petersburg Gazette published the debates on a number of legislative amendments for the promotion of forest culture in the provinces of Kazan and Astrakan, "with a view of improving the climatic condition of Southern Russia." The Imperial Council has since sanctioned these amendments, thus following the precedence of Prussia, France and Egypt in recognizing the importance of the strangest discovery since the reappearance of the lost Atlantic: of the fact, namely, that Nations are the arbiters of their climate vicissitudes; that the tree-destroying axe has turned thousands of garden lands into deserts, and that the greatest of all earthly evils has been caused, and may be cured, by the agency of man.

Just about three hundred years ago Bernard Galissy, the Nestor of the Huguenots, called attention to the meteorological changes in Southern France, where the denudation of the mountain ranges had made the summers dryer and the winter storms more destructive by removing the natural barriers to the force of the wind and turning mountain brooks into torrents. But the full significance of these phenomena was only realized when Humboldt published his work on the climatic influence of vegetation. The culture of forest trees then became a special science; the writings of Amersford showed that their destruction had caused the irruption of the Zuyder Sea and blighted the fertility of the Azores, and, by comparing the ancient historical with the present condition of Southern Europe, it was found that the same cause had produced a change which more than verified the omen of the Paradise legends. In a recent number of the Popular Science Monthly (January, 1882). Mr. Frederick James describes the climatic amenities of Western Arizona, where the sirocco of the Colorado Desert is often accompanied by violent sand showers, which once in a few hours almost obliterated the track of the Los Angeles Railroad. If a shower of that sort were to descend on the garden regions of Southern Massachusetts, and continue for twelve days and twelve nights, the result would give us an idea of the contrast between the present and the former appearance of Asia Minor. The barren mountain ridges that characterize the landscapes of our Bible illustrators are as anachronistic as the siege guns in Giorgio Vasari's "Destruction of Jerusalem." Even during the last centuries of the West-Roman Empire the luxuriant fertility of Western Asia must have surpassed anything produced by a com-

bination of natural advantages with assiduous horticulture or landscape gardening in the happiest valleys of our Atlantic sea board; gardens and forests of fruit trees must have clothed the hills to their very summits to support the teeming population of the ten Roman provinces between the Caucasus and the Archipelago. On an area of thirty thousand square miles—about the size of the State of South Carolina—Mithridates raised armies which resisted the power of Rome for twenty-two years, the six west provinces were studded with towns that could emulate the luxury of Alexandria. While their own country was yet in the prime, Syria was to the citizens of Rome what modern Italy is to the rest of Europe, the Elysium of poets and pleasure seekers. About a century after the death of Alexander the Great some mercenaries of Gaul found their way to Asia Minor, and their return to their native country created a bonanza sensation which induced sixty thousand of their countrymen to abandon their homes and fight their way across Southern Europe, in order to reach that lubberland of the East, where the survivors actually gained a foothold and founded the Province of Galatia, Cyrus the Great used to pass seven months of the year at Babylon, on the Euphrates, in a "region of perpetual spring," as Xenophon calls it, and Hadrian, Septimus Severus and Sselencus Nicator had their favorite country cats in the Valley of Daphne, where even a Greek could forget his native land.

And the axe alone has blighted all but a few mountain nooks of the seagirt Eden: the coast regions from Gaza to Trebizond resemble the shores of the Dead Sea. Nothing short of a miracle would induce the Jews to recolonize the promised land of their fathers. In Syria, in the land of *Fentes umbrosas* and meandering meadow brooks, water is now as scarce as in the Llanos Estacados. Asia Minor has become the epitome of a dying continent; her poverty and the hellish harmattan, the firewind of the Arabian Desert, are now her only protection against a western invasion.

Judging from the description of ancient geographers, the climate of the North African provinces must have resembled that of our Gulf States—Florida and Southern Texas—for even in the third century the Cyrenaica (the modern Tripolis) had eighty Christian Bishops and a population of ten or twelve millions; two hundred years later famine and droughts had reduced that number to six millions; but the reckless destruction of forests continued from century to century, though Terentius Varro had already warned his countrymen that in the *deserts* (a word which had not yet acquired its horrid literal meaning) posterity would hold a destroyer of a tree nymph as guilty as a murderer. In Africa, Syria, Asia Minor, Armenia, Persia, Greece and Spain, the agricultural value of the low lands has been reduced by more than 80 per cent.; in Italy and southern France at least one half; on the Eastern continent, a once lavishly-fertile territory of seven million square miles has been withdrawn from human use. The two Americas contain about fifteen million square miles; but, if we deduct the snow wastes of the Hudson Bay territory, Labrador, the deserts of our own Great West, and the South American paramos and fever swamps, we must agree with Charles Laurent that the gain by the discovery of Columbus has hardly balanced the loss through the neglect of Varro's warning.

When the population of Italy had reached its maximum, the highlands of the peninsula were still clothed with splendid forests, abounding with game, honey and wild-growing berries, and the agricultural regions were blessed by a combination of the happiest climate and the richest soil, with other advantages, which make one suspect in spite of

Caesars and *circenses*, that the noon of human prosperity has declined with the sun of the Orbs Romanus—the noon of the brightest day, at lease, since it cannot be denied that the night of the Middle Ages has given way to something like a new morning.

Southern Europe is now what Africa was twelve hundred years ago, a region of fading oases and rapidly growing deserts. Southern Italy has begun to generate her own siroccos. Greece contains hardly a square mile that would be recognized by a resurrected contemporary of Xenophon. The coasts of Spain are lined with embryo deserts, in Valencia, where the Roman cavalry found their richest pastures, the traveler and his horse must now often eat a pinch of drift-sand with every breath of air. The strangest result of this metamorphosis is perhaps the change in the winter climate. The cool and clear, and occasionally ringing cold winter of Northern Texas might give one a good idea of what that season used to be in ancient Italy. In the time of the elder Pliny the freezing of the Tiber seemed to have been a phenomenon of almost yearly occurrence. Columelle speaks of frozen lakes and springs, the "snowy summit" of Mount Soracte, a hill of very moderate elevation, is mentioned by several poets, and in the dialogues of Plato. Socrates is bantered about his ultra heroism in the campaign against Corcyra, where he walked barefooted in the snow while his comrades were shivering in their tents. The latter day winters of the Mediterranean coast lands are warm and wet, snow falls only on the higher mountain ranges, and melts fast enough to fill the ravines with continuous torrents. The Emperor Julian, who passed six years in France, mentions in his "Misopogon," that the valley of the Seine at that time was almost entirely exempt from inundations. "Quails aestate, talis esse solet hyeme," he adds, in speaking of a river whose level varies now more than thirty feet!

(CONCLUDED IN OCTOBER BULLETIN.)

### Disappearance of the Sardine Change of Climate, &c.

The disappearance of the sardine from its usual haunts along the Vendean coast of France has been attended by a remarkable change of climate. The sardines suddenly disappeared in 1879, and have not reappeared since in any considerable numbers. This species of fishery furnished occupation for some 15,000 Vendean and Bretons, and 3,000 boats, and the annual catch was valued at about \$3,000,000. This is as great a calamity to the fishermen as the ravages of the phylloxera to the grape growers of France.

The disappearance of the fish was coincident with a change of climate. The winter on the Breton coast, writes Consul Gifford, is generally characterized by a low barometer and frequent rains. Since 1879, however, it rarely rained on the coast, and the high barometer pressure has been almost incessant. The storms have passed to the north, and the southwest wind, laden with moisture and bringing frequent rain, has given place to a dry wind from the northeast. This change has been attended with lower temperature. The average winter temperature for this part of the coast of France has hitherto been about 45°. But since 1879 the winters have been marked by extreme rigor, with thick fog shutting out the sun, but little rainfall and high barometer.

This decided change of climate and the disappearance of the fish are attributed by M. Blovier, President of the Maine et Loire Industrial Society, to a displacement of the Gulf stream, one branch of which has ordinarily washed the coast of the Bay of Biscay, rendering the climate moist and warm. The sardine follows the warm current, and has simply fol-

lowed the new path made for it by the change in the current of the Gulf stream.

That this is not a permanent change, however, may be inferred from the theory that it is due to the accumulation of immense masses of ice in Baffin's Bay, which obstructs the flow of the Arctic current, the cold waters of which off the banks of Newfoundland deflect the Gulf stream toward the shores of Europe. When these masses of ice break up and disappear the Gulf stream will resume its old course, and the sardines return to their old grounds, so to speak.

Meantime it is to be noticed that there are just as many sardines in the market as ever, and they bear the names of the French houses famous for preparing them as an article of food. That is even more of a mystery than the change in the course of the Gulf stream and the loss of a sardine fishing business worth \$3,000,000 a year.

### An Iceberg Several Hundred Feet in Length.

It is uncommonly refreshing just now to read of icebergs and consequently cool weather on the Atlantic. The Dutch steamer *Jasen* arrived at Watson's Stores, Brooklyn, early yesterday after a long voyage. Captain Hinlopen said to a reporter: "We were sixteen days out, or about forty-eight hours beyond our usual time. We encountered several severe gales after we left the Channel, and up to ten days ago the steamship was delayed by a series of heavy gales, almost as rough as during the winter. Last Sunday an enormous iceberg was seen floating on the water three miles to starboard of our course. The berg was indeed a glacial mountain. The top was covered with snow and seemed to tower

FULLY 150 FEET ABOVE

the water, while its glistening sides were several hundred feet in length. The iceberg was lying in lat. 45-18, long. 47-20. We did not meet any more of them, although the water for miles around us was very cold. As we neared the Newfoundland Banks, the air became very thick and foggy, and the watches were doubled, as we feared a collision with some iceberg or abandoned vessels which often float about the ocean for weeks after the crews desert them. Early last week one of the sailors saw a

LOT OF WINE CASKS

floating end upward in the water. I counted ten of them, and from their construction I think they once belonged to some Spanish vessel, and were washed overboard during a storm. Foggy weather was experienced all the way from the Banks till we arrived off Sandy Hook."

On our last page will be found the advertisement of the South Eastern Railway. This Company offers to the public the best routes to Boston and other New England cities, and to Portland and Old Orchard Beach. The line to Boston runs via Newport, Wells River, Concord, Nashua and Lowell, and the train service is unsurpassed. Elegant parlor cars are run on day trains and Pullman palace sleeping cars on night trains. The route to Portland runs through the very heart of the White Mountains, passing through the famous White Mountain Notch, and the scenery on the line is unsurpassed in America. It has become the favorite route from Montreal to the seaside. Trains leave Bonaventure station at 9 a.m., and run through by daylight and without change, having palace drawing-room car attached, and arrives at Portland at 8.30 p.m., and at Old Orchard Beach at 9 p.m. Intending tourists should investigate the merits of the South Eastern routes before starting out, and we feel sure that they will be well repaid by a trip over this line.

### Mosquitoes in the Arctic Region.

[From the Land of the North Wind.]

The one bitter drop in our cup of joy was the monstrous but inseparable curse of Arctic summer life—the mosquito. He abounded, flourished, luxuriated, surpassed himself, out-mosquitoed himself on the Kuloi river. We were at his mercy, our veils, gauntlets, handkerchiefs, flapper, all were a vanity and vexation. To kill was wanton, for to destroy sufficient was impossible. We had foreseen all this, and had even thought of taking, among other things, a woodpecker from home with us to protect our faces while we slept, but one woodpecker would have been a solemn mookery, we should have wanted a fresh woodpecker every five minutes.

I suppose these were the historical flies sent to punish the disobedient, obstinate Egyptians; they came forth in order, and after three grievous plagues—the corruption of the waters, the multitude of frogs and swarms of lice—had entirely failed. We are becoming connoisseurs in mosquitoes, we watch them traverse our veils like figures on slides in a magic lantern. There is a yellow striped vampire mosquito, with a triple fang to his proboscis, there is the brown humpbacked or camel mosquito, with legs of gossamer, who appears to our vindictive eyes to be from two to three inches in length, finally, there is the scorpion mosquito, very searching and business like. We dislike him greatly, for he wastes no time. We know now that leather is a hollow delusion, and armor plated gauntlets are alone of avail. Sometimes a mosquito comes and kills himself by squeezing between our finger and thumb, sometimes by flying against my flapper.

There are moments, but so rare and delicious that I almost tremble to describe them, when we find a mosquito who has anchored himself by the proboscis in our gloves—and we watch the expression of baffled hatred in his countenance with which he watches the approach of the avenging finger. O the peaceful, blissful enjoyment of that moment! Sometimes we watch him in his anxious, hurried efforts to pierce the glove—he knows that time is all he needs—standing upon his fore legs with his hind legs flourishing in the air while he bores away diligently through the thick leather in his wicked thirst for blood. Sometimes in our frenzy we ensnare a mosquito and get up a trample on his head. We ask ourselves in hours past endurance why the laws of nature should be reversed, and man, the lord of creation, become the prey of savage creatures. We have formed a grave, if impious, resolution, we will take a mosquito by stratagem, pinion him, and with the help of a burning glass offer him in sacrifice to the Midnight Sun.

The Cyclone makes Manitoba one of its fields of visitation, whether frequent or otherwise can only be known to settlers by waiting to see. At all events Snowflake Township, in the southern part of the Province, was lately struck by the dread visitor, leaving at least one home in ruins, and the husband and father dead. Recent cyclones in the United States have caused discussion of methods of escape for the inhabitants of plains liable to their destructive fury, such as strongly covered cellars, etc. Some automatic alarm of the approach of severe storms, which could be heard for a mile or two, might be devised—something like the whistling or bell buoys used to warn mariners off a dangerous coast.

Trust men and they will be true to you, treat them greatly, and they will show themselves greatly.—Emerson.

Give not reins to your inflamed passions, take time and a little delay; impetuosity manages all things badly.—Statius.



# The Weather Bulletin.

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## ADVERTISING RATES

The last two pages of this paper will be used for advertising purposes, but no cards will be permitted in the body of the text.

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## Editorials.

—By some unaccountable mistake the names of points, illustrated by the Charts in August BULLETIN, were left out, but we believe most of our readers turned to the June number in which the first of these charts appeared with explanations. The stations are, 1, Fort Garry, Man.; 2 Algoma, Ont.; 3 Toronto, Ont.; 4 Montreal; 5 St. John, N. B. With good records of the weather from these points we pretend to be able to predict fairly accurately for Canada some time in advance.

—Will each of our subscribers ask us one question? We wish to try an experiment. There are points related to the weather subject which must have puzzled every individual during his boyhood or manhood. These have been different in different cases. Our idea is to gather together from individuals in every quarter of the country the questions which have most frequently arisen in their minds relative to the weather and seasons generally. These we will publish with our answers (so far as in our power) in each issue of the BULLETIN. We desire the response to be general, as it will be exceedingly interesting to note how many persons have been puzzling over the same points. The questions may be sent by postal card, when brief, or by letter when more space is required, and we promise to give our attention to each. We believe a "QUERY and REPLY," column would soon become of great value and interest to all.

—The August issue was a little late owing to the Editor's absence from Montreal, but we try to make up for this by an early output of the September issue. It was however, somewhat gratifying to us to note how eagerly the BULLETIN is looked for by all classes of readers. For hardly had the first three days of August passed ere we were overwhelmed with postals enquiring as to the cause of non-arrival of papers.

—We do not court praise, we do not flinch from censure; but what we do wish and ask for is fair, honest and truthful criticism.

—Our predictions may, in future, be readily tested by comparing them with the *Weather Review* of the respective months as published by the bureau at Washington. This is a severe test we admit, but we are willing to abide by it.

—The BULLETIN is steadily and rapidly increasing in circulation and already has a very extensive range, a greater one, probably, than any one other monthly printed on this side of the Atlantic.

## 22. The Weather Outlook.

**October.**—Cold, wet and stormy after the 15th of month throughout Canada and Northern Atlantic and Central States, with probably, snow-falls in extreme Western portions of Central Division of United States and in Western Ontario, Canada.

**November.**—May bring a return of open and calmer weather in its fore portion, but the latter part of that month promises to be again stormy and very cold in North West and portions of Northern Central Division, (U.S.) There is likely to be a cold wave of considerable intensity over Western and North Western sections of both Canada and United States, towards the close of the month or entry of December.

**December.**—It is my opinion, from present stand point, (July 22nd) that this month will give an unusual amount of precipitation (rain and snow). Snow in Northern, North Western and Western Sections, and heavy rain and sleet storms in Southern, Central and Southern Atlantic Divisions of United States. After the 20th of the month the snow storms are likely to extend as far to the Southward as the Northern portions of the Southern Atlantic Division, (Delaware and Maryland). Heavier snow falls will occur in Western and Eastern portions of Canada than in Central portion or St. Lawrence River Valley. Very stormy close of month in the majority of Sections, and probably plenty of snow. Before the 1st of the New Year there will have been experienced a very considerable term of wintry weather. The ice outlook could not well be better.

August, 1882.

## Sun Spots and Cyclones.

[St. Louis Republican.]

The whole study is an almost irresistible argument in favor of the electric character of the mighty forces which have their source in the sun, and of that theory which regards the solar system as organized on the principles of the electrical machine. The cyclone, then is beyond our control—as much so as is the earth quake, or the bannered firmament that trembles and waves in auroral displays. When man has learned to "bind the sweet influences of the Pleiades or loose the bands of Orion and guide Arcturus to the suns," he may hope to issue mandates to the funnel-shaped clouds that leave their blasting tracks on a Kansas prairie.

## The Weather Prophet.

The lot of the weather prophet is far from being a happy one and he would often seem to be justified in exclaiming in a paraphrase of the apostle's words: O, unfortunate man that I am, who shall deliver me from the weather critic. Here is Vennor, whom this part of the country has taken severely to task for the hot weather of the past week, when it thinks that according to his predictions that should have been a cold spell. Then as though the criticism were not enough, there comes the Louisville, Ky., *Courier-Journal* and attacks the poor man for having failed to bring on hot weather. Life must be a torment to Vennor, with one lot of critics complaining because he does not send just such weather as another says that he does send, and so on. But in this case the *Courier-Journal* writer gives evidence of a distempered fancy and an overheated brain, that is the surest evidence, his words to the contrary notwithstanding, that Louisville and the *Courier-Journal* office have not escaped the torrid heat which has burdened the rest of the country. He says: "Throughout the interior the weather of the month has been remarkable for its exquisite beauty. The days have followed one another with the pomp and glory of triumphal kings. The rains which flooded the country in June and suggested Decealion and Noah, Cox-Cox, Fah-he and Kokoza were modified during the first week, and further on the drops fell in soft cavities at night, empearling all the greenery to greet the morning sun, which drove majestically, day after day, across one of the coolest and tenderest of blue skies. . . . The mornings have been queenly, especially since the early summer deluges gave all vegetation such a stalwart start, and made the chlorophyll of a deeper green than usual, thus deepening the contrasts between the blue of the sky, the gold of the sun and the green of vegetation. July has been a poem bound in green, and blue and gold." Who shall say now that Vennor has not been vindicated and avenged? As a matter of serious fact Vennor claims that his predictions have been found to have been generally correct straight through the month, the different changes during the month having set in on or very close to the date named. The recent heated term did extend beyond the dates given, but only by a day or two, and the temperature commenced to lower in one or the other of the sections of the country on or after the 27th. In the Lake and the St. Lawrence river regions the changes arrived almost to date, as they also did in the northern central states.

## An Eighty Pound Hailstone.

*Salina (Kan.) Journal.*—Considerable excitement was caused in our city last Tuesday evening by the announcement that a hailstone weighing eighty pounds had fallen six miles west of Salina, near the railroad track. An inquiry into the matter revealed the following facts. A party of railroad section men were at work Tuesday afternoon, several miles west of town, when the hailstone came upon them. Mr. Martin Ellwood, the foreman of the party, relates that near where they were at work, hailstones of the weight of four or five pounds were falling, and that returning toward Salina the stones increased in size, until his party discovered a huge mass of ice weighing, as near as he could judge, in the neighborhood of eighty pounds. At this place the party found the ground covered with hail as if a wintry storm had passed over the land. Besides securing the mammoth chunk of ice, Mr. Ellwood secured a hailstone something over a foot long, three or four inches in diameter, and shaped like a cigar. Those "specimens" were placed upon a hand-car and brought to Salina. Mr. W. J. Hagler, the North Santa Fé merchant, became the possessor of the larger piece and saved it from dissolving by placing it in sawdust at his store. Crowds of people went down to see it Tuesday afternoon, and many were the theories concerning the mysterious visitor. At evening its dimensions were 9x16x22 inches.

Montreal, 31.—A gentleman just returned from Esquimaux River, Labrador, says the winter was very severe. Ice did not begin to disappear until the first of June; then heavy rain set in. The cod fishing is poor. No salmon were caught, but there was a plentiful supply of salmon trout all winter.

**Summer Flowers.**

*Written for the Troy Daily Times.*

With a view to refer to a few of the peculiarities and benefits of the vegetable creation, I would observe that there is a wide difference between the virtues of a plant growing in a wild or natural condition from that of the same herb when artificially cultivated. This is due to the fact that the transference of plants from their native locations to soils prepared by the hands of man induce many changes in their individual elements. And so palpable are these changes that plants formerly used for medicine are now cultivated for the table only. For instance, the large and nutritious article of diet known as the turnip was in its native state a small acid root. Again, plants when grown in natural localities possess well-defined medical properties, nearly all of which are lost by cultivation. Important changes in morphology are superinduced by the same means. In our gardens the stamens of the rose are converted into petals. In Africa the castor oil plant is a woody tree, while here it is an annual. It may be of interest also to show in this connection that the doors of plants and flowers have their physiological uses, for the fragrance of certain plants is evidently designed to protect them from the ravages of parasitic insects which are inimical to their growth and development. That the vegetable kingdom may be made to contribute to our comfort in various ways by proper forethought will be evident if we notice that though a shadow may be defined as an unsubstantial immateriality, yet, under certain circumstances, it may become a luxury or even a substantial benefit and blessing.

In some countries of Europe the great thoroughfares are lined on either side with umbrageous trees planted at regular intervals by order of the government and affording a grateful shade in hot weather to man and animals. These trees consist of apple, pear, cherry, prune and black walnut trees, and a pedestrian can travel many miles in Germany without being exposed to the rays of the sun even "when he shineth in his strength." The comfort of animals used in the transportation of merchandise on these highways is also largely promoted by this humane arrangement. Yet it seems never to have occurred to the "American people" that the enterprise and forethought evinced by the European authorities in this matter would be worthy of imitation.

We have many grand and noble trees available for such purposes; among these is the *Rubia* (locust), which in its durability and the beauty of its foliage is exceeded by few trees of the American forest. The flowers are numerous and rose-colored, and with the thick dark green leaves render this tree one of the most brilliant ornaments of the park or garden. Specimens now in flower may be seen in a ravine a short distance east from Pinewood avenue.

As information is desired by parties relative to certain medicinal plants, I would state that *Chelidonium majus* (celandine) is a pale green fleshy herb found along fences by roadsides and in many gardens. The leaves are smooth, spreading and consisting of two to four pairs of leaflets with an odd one. The bright yellow juice is used to cure psora and destroy warts. Properties: It is stimulant, acrid, alterative, diuretic and purgative. It is used internally in decoction and externally in poultices and ointment. The root is intensely bitter, and is the medicinal part. It yields its virtues to alcohol or water.

*Erigeron canadense* (butter weed).—The whole plant is medicinal and very valuable as a tonic, diuretic or astringent. Butterweed is common and abundant, growing in fields, meadows and by roadsides. It is now in flower, and should be gathered while in bloom and carefully dried. It is useful in gravel, dropsy and kidney complaints. The dose of the powdered plant is a half drachm; of the infusion three to four ounces.

*Cannabis sativa* (hemp).—An herbaceous annual, several feet high, with an erect, branched, angular, bright green stem. The leaves are opposite or alternate, with serrated leaflets tapering into a long, smooth point. The seeds are small and ash-colored. It is cultivated in many countries for its fibre, which is stronger than flax, and is the best of all materials for cordage and sail-cloth. Properties: It is narcotic, anodyne and anti-spasmodic. It has been successfully employed in gout, neuralgia, rheumatism and

hysteria. The leaves are stimulant and produce intoxication. Their exhilarating qualities are described as unequalled.

*Cassia marilandica* (wild senna).—This herb grows about five feet high, with a round, smooth stem. The flowers are bright yellow, and the fruit is a legume. It is found occasionally in rich, alluvial soils, from New England to the Carolinas. It is one of the most important cathartics furnished by American plants, and is equally valuable as the foreign senna of the drug shops, and far less expensive.

*Eunonymus atropurpureus* (wahoo) or burning bush.—This is a small shrub, some six feet high, with smooth branches. The flowers are dark purple, and the fruit is of a crimson color. The bark is the official part. There is another variety, *E. Americanus*, known by the same name, wahoo, of similar properties, and equally useful medicinally. These plants grow in woods and thickets and in river bottoms. Properties and uses: It is tonic, laxative, alterative, diuretic and expectorant. It is serviceable in dyspepsia, torpid liver, constipation and pulmonary diseases. It yields its qualities to water. Of the powder, twenty grains constitute a dose.

*Leplandrea virginica* (black root).—The root is the medicinal part. The leaves of this plant are whorled in fours and fives around the stem. It is usually about four feet high. The flowers are white and numerous. This plant is found only where lime abounds. Sometimes, however, it is discovered in most woods and swamps, but not in good condition, its virtues being nearly lost. The dried root is tonic and laxative, and often employed in chronic hepatic diseases. Used in powder and in the form of infusion. W.

EAGLE MILLS, July 8, 1882.

**Mt. Washington, N. H., and Trembling Mountain on Rouge River, Canada.**

A few evenings ago I sat on the veranda at Fabyan's very comfortable resort near the base of some of the most lofty of the White Mountains, and gazed up—up—up at the summit of old Mount Washington, that grand vast and tossed-up mass of rock—year after year weathering browner and browner, always as hard to climb (barring the railway), ever as sublime, bound to last to "the end." But nearly every one has seen Mount Washington or has read of it, and it is not my purpose at present to heat myself by going into raptures over it.

Some months ago I sat at the door of a little white tent, pitched on the shore of the lonely but beautiful Trembling Lake, at a remote point in the Rouge River valley, almost directly north of Montreal, and gazed up toward the summit of a very similar pile of rock, "Trembling" or "Devil's Mountain." This, every one has not seen and probably very few heard of, but it is there notwithstanding. It is the highest point in the entire Laurentian range of mountains in Canada, and makes one surmise that it was about their last "kick up." Certainly old "Trembling Mountain" kicked the highest. There is no nice little accommodating railway here, no carriage road, no good footpath: nought but an obscure and very old trail, made nearly half a century ago and at present all overgrown with under-growth. It is probable that not more than half-a-dozen human beings have ever fought, or rather, I should say, *torn* their way to the summit of this grand "look out." Looking at the mountain from the lake shore, the appearance presented is that of a gentle and gradually ascending plain, the summit of the mountain looking very far away and dim in the distance. But at or about sunset, and as the dying shadows of the day chase one another across the great slope, the well-defined outlines of less lofty ranges come into view between the lake and the greater summit, and it becomes evident that to reach this last mentioned, several mountain ranges will have to be traversed. As is the case at Mount Washington, ice and snow re-

main in the dells and valleys of Trembling Mountain all the year round, and we were informed that not unfrequently the mountain is snow capped during the summer months.

Our party did not attempt the summit. We preferred gazing at it from the bosom of the peaceful lake at its base, where we could be awe-stricken without being sun-stricken, while listening to the terror inspiring stories of our guide respecting the tremblings and groans which oft had been heard issuing from this mountain, and from which it had earned its "devilish" name.

Years ago, the late Sir Wm. E. Logan and party camped on the same lake; and on referring to the mountain in his report, Sir William mentions similar stories told him by his Indians as touching the noises and quakes said to issue from it at certain seasons of the year. He dryly adds, however, that while he was camped there "the mountain remained perfectly quiet." While we were there there certainly were noises heard, for toward midnight a violent thunderstorm set in, with very sharp lightning and rattling thunder, and the reverberating echoes produced just such a trembling as had been described to us.

It will be a long time before tourists will find their way to Trembling Mountain, as it is exceedingly difficult of access. Mountains have to be traversed in a "buckboard," rivers ascended in bark canoes, portages made and streams forded, and, worst of all, all necessary provisions carried. But once there the sight repays one for all the fatigue endured on the journey, and one has the satisfaction of knowing that the scene and surroundings are all natural. Nature herself, un sullied by the touch of man, and undisturbed by the shriek of the steam whistle.

July 29th.

**Signal Service Review—June.**

The monthly Review for June, issued by the Signal Service, and just at hand, is of special interest, as that month was, it will be remembered, particularly marked by the occurrence of unusually severe storms and tornadoes. A feature of the month was the absence of storm tracks from the southern States and Atlantic coast districts. The central depression of no disturbance appeared south of the fortieth parallel of latitude, except in the Middle Rocky Mountain slope, and the storm tracks were of the average paths in June. Ocean ice continued in the North Atlantic during the month. The temperature ranged slightly below the normal for the month except in the Missouri valley, Oregon and Washington Territory. On Pike's Peak it was 3.4° below the mean of the month, and the minimum of the month at that elevated station, 14,134 feet above sea level, was 2°. During June there was a deficiency of rain-fall in the Gu., Middle and New England States. In the States north of the Ohio and in the Northwest there was an excess. Some remarkably heavy rains occurred. Battle Creek, Mich., reported 3 inches in one hour; Logansport, Ind., 3.45 inches in one hour and forty-five minutes. Snow in June was reported from Lansing, Mich., Milwaukee, Pike's Peak and Mount Washington, and the summits of mountains in Vermont were several times covered with snow. Local storms were numerous and destructive. Pogue's Run, at Indianapolis, scored the greatest and most disastrous flood of the month. Numerous auroral displays were observed during the month, the most extensive being on the evening of the 14th, observed as far south as Springfield, Ill. Mention is made of an unusual electrical phenomenon in connection with an aurora at Pike's Peak. The anerometer cups, part of the instrument for measuring the velocity of the wind, like those on Pike's Opera House, were rapidly revolving as rings of fire. The telegraph line was outlined in bright light. The phenomenon was preceded by thunder and lightning and accompanied by a dense, driving snow. Slight shocks of earthquake occurred at San Francisco during cool and damp weather, contrary to the general experience that earthquakes occur on warm, sultry days.

## End of the World.

THE MOTHER SHIPTON PROPHECY "AN UNDENIABLE TRUTH."

From the *Pittsburg Dispatch*.

A staff correspondent has found one W. T. Allen of Greenville, who still holds to his faith in the prophecies of Mother Shipton. He explains that 1881 has passed, and that we are still astronomically about where we were last year. In brief, the world to an end did come, in 1831, as per schedule; not in the common, narrow meaning of the verb, but in the broader sense of "coming to come." There was no jar, no noise, no scene, but a gentle, quiet, comfortable coming to come. The unpleasantness in Egypt is the beginning of the great battle of Armageddon, which, according to Mr. Allen, is to last for 48 years, with occasional truces, and result in the destruction of all sinners and the formation of a world-wide nation, with the Jewish people as its ruling class. He tells of visions vouchsafed to him personally during the last two years, by which his studies have been directed, and accounts himself as one of the "young men" whom the prophet Joel had in mind who should "see visions."

He thinks the day of judgment is upon us, and this battle in Egypt is the great battle of Armageddon, or great battle of God Almighty. "One of the leaders in Egypt, who has 20,000 men" under him, is known as the False Prophet. The Scripture speaks of him: "And I saw three unclean spirits like frogs come out of the mouth of the dragon, and out of the mouth of the beast, and out of the mouth of the false prophet; for they are the spirits of devils working miracles, which go forth unto the kings of the earth and the whole world to gather them to the battle of that great day of God Almighty. And he gathered them together in a place called in the Hebrew tongue Armageddon." (Rev. xvi. 13, 14.) The application of the word "dragon" is to the ruler of the Egyptians, and no doubt refers to Arabi Bey. Ezekiel says (chap. xxix. 3), "Behold, I am against thee, Pharaoh, King of Egypt, the great dragon that lieth in the midst of his rivers, which hath said, My river is mine own, and I have made it myself." The river in that last clause is plainly the Suez canal. The judgment has fallen upon Alexandria because Mark was dragged through her streets and killed.

"Then this is only the beginning of a general vengeance on the sinners everywhere, according to your notion?" said the reporter.

"Yes. The massacre at Alexandria was comparatively tame compared with what will come. Rome will be utterly destroyed. Then Jerusalem will rise again. The destruction of the sinners from the face of the earth, which has now begun, will be completed in about 48 years, and then will succeed a reign of peace under some holy prince of the Jewish race. It is the world, and not the earth, that is to come to an end. Six days of a thousand years each (for a day is as a thousand years in His sight and a thousand years as one day) have passed. We are at the threshold of the Sabbath, and this bloodshed that is to come is the purification necessary before the period of peace."

"How is America to become embroiled in this Egyptian war?"

"I do not know just now, but we will be in the great war, depend upon it. It is necessary to the fulfillment of the prophecy, a navy will be furnished us. No, I cannot tell you what will happen next in the Egyptian war, nor just how long the great nations will take sides in the conflict, except that the Egyptians and their allies will get whipped. It is much easier," he concluded, naively, "to see the application of the prophecy after it is fulfilled than beforehand."

## Ice Water Drinking.

Prof. Blot, the great French exponent of culinary art, used to say that Americans were the toughest people on earth since "they drink ice water, and still live." The Professor was not aware of the manifold forms of indigestion to which the ice water habit gives rise. To take ice water of thirty-eight or forty degrees temperature into the stomach, which maintains a temperature of ninety-nine degrees, is to invite chronic disease in gravest forms.—*London Free Press*.

## Kentucky Agriculture.

The agricultural productions of Kentucky in 1880, according to the tenth census, was as follows:

	Bushels.
Indian corn.....	72,852,263
Wheat.....	17,356,113
Oats.....	4,680,738
Barley.....	486,326
Rye.....	668,050
Buckwheat.....	9,942
	Pounds.
Tobacco.....	171,120,784
Value.....	\$11,089,782

The following is the value of farm production and wages, according to the census of 1870

All farm products.....	\$ 87,477,374
Animals slaughtered.....	24,121,861
Forest products.....	574,994
Market garden products.....	527,329
Orchard products.....	1,281,385
Total farm income.....	\$113,922,923
Wages paid, including cost of board.....	\$10,709,382

The valuation of the farm incomes for 1882 will probably exceed the foregoing by at least one-third.

## Artificial Heat and Cold.

THE PRINCIPLES INVOLVED IN HEATING AND COOLING AIR.

(Commercial, Civ., O.)

The process of heating, as commonly understood, is simply to render latent heat sensible. This is done by the chemical operation of combustion—in other words, the burning of various carbonaceous substances, as wood, coal, oils, &c.—in which chemical operation, a portion of the heat, which was before latent or hidden in the fuel, is set free, and becomes sensible and capable of affecting the sense of feeling, the thermometer, and other bodies and substances, one of which is air, through which free heat diffuses itself, something in the same manner as salt is diffused in water when put into it.

The process of cooling is just the reverse of that of heating. Heating is rendering latent heat sensible, and cooling is rendering sensible heat latent. That is all there is of it in principle, either in art or in nature.

When a solid body, as ice, for instance, is melted, a certain amount of free, sensible heat, is absorbed, sufficient to raise the temperature of the coldest ice water—32°—140° above the freezing point. In converting water at 32° into steam, an additional amount of sensible heat, equivalent to 11.46°, is rendered latent, which explains the cooling effect of showers in hot weather, playing fountains, sprinkling floors, streets and sidewalks. The great drawback, however, in connection with sprinkling is that it causes dampness, especially in places not sufficiently open for full ventilation, and often a shower in hot weather is hardly better than an aggravation, for though it may cause the thermometer to fall a few degrees, it causes the hygrometer to rise many, and by reason of the increased dampness, makes the air worse than it was before. In cooling air for purposes of personal comfort, it is necessary that moisture be taken from it in the same proportion as heat. Thus, if the thermometer stands at 95° in the open air, while the wet bulb thermometer stood at 75°, then, in case the temperature of the air was lowered 20°, it would be necessary to abstract a sufficient amount of moisture from the cooled air at the same time, so that the wet bulb thermometer would stand in the cooled air at 55° or thereabouts.

Among the peaks of the snow-capped mountain ranges the above process of cooling the air and condensing its moisture in the form of rain and snow is seen in constant operation on an immense scale. Still the principle is the same, whether it is a snow-ball or a snow-

capped mountain. A drop of water is as wet as an ocean, though not as large. In short, the Rocky Mountains, the Sierra Nevada and coast ranges of the Pacific slope, the Cordilleras of Mexico, the Andes and all the high mountain ranges in the world are only so many of nature's refrigerators on a huge scale, while the great lakes and oceans are the balance wheels of the world's temperature. Even the less elevated ranges, as the Alleghanies, Catskills, White and Green Mountains have a very perceptible effect on the condition of the surrounding air.

Climate is made up entirely of the moisture and temperature of the air; and the nearer it comes to 70° of temperature and 50° of relative humidity, the better and the more pleasant it is to live in. There should be a difference of at least 20° between the temperature of the blood, which is 96° to 100°, and the surrounding air. To warm air up to the point of personal comfort is a very common thing, and to cool it down to the same point is neither impossible nor impracticable.

In practice my own experience has been that one hundred pounds of ice will cool a room of one thousand cubic feet capacity from one hundred degrees down to eighty-five, and keep it comfortably cool all night, if the room is kept closed as it would be in winter. Why it is that, in plain view of all these facts, people will persist in sweating and sweltering by millions every summer, and occasionally dying, as they did last summer, by hundreds and thousands, when the temperature of houses can be controlled as easily in hot weather as in cold, is more than I can imagine.

In the summer of 1881 there were 568 people died from sunstroke and prostration from heat in Cincinnati alone, and besides there were hundreds or perhaps thousands of others who did not die, but were permanently injured by the effects of heat. Suppose that many people had frozen to death instead of dying from sunstroke and prostration. The whole world would have been shocked. And still the man who freezes to death don't die any dead, and don't suffer half as much as the man who dies from overheating.

JOHN KING.

Cincinnati, August 9, 1882.

Phew! it's hot.

Jingo! how cold.

Yesterday cool, to-day hot, to-morrow frozen. Where is the weather of our grandfathers?

The man who says this has not been an eccentric summer, must have been absent-minded.

The areas of heat and drought appear but as specks on the map amid an ocean of great rain-falls.

"Hello! Jack Frost, ahead of your time, ain't you?" Response: "No; I've been here all summer."

29° at Mt. Washington in July, and 24 days of rain or snow out of the 31.

Why consider "the oldest inhabitant" an authority on the weather, when it is well known that old men's memories are unreliable.

No rain on Maine coast during July or fore-part of August.

During the storm at Albany, N. Y., on Aug. 7th, a flash of lightning entered the *Argus* office through the telephone. "There was a *fish* sounded on the instrument, the bell gave a solitary intonation, and a deafening clap of thunder followed. The signal was not immediately responded to by the occupants of the room, although they are uniformly courteous in answering inquiries."

The earth's atmosphere is so capricious, and the differences between latitudes so marked, that men of thought and observation have something to offer to the general information at most any time. Much has been done latterly towards a general understanding of the conditions of heat and cold, and it has been ascertained that the principles underlying phases of what we call "weather" are susceptible of clear and definite explanations.

**MINES AND MINING.**

**The Geological Position and Conditions of the Apatite Deposits of Canada Simply Described.**

There are two distinct and separate sections in Canada in which phosphate of lime occurs. The most southerly of these is reached north of Kingston, Lake Ontario, in the townships of Sydenham, Loughboro, Bedford and North Burgess, and in the direction of the little town of Perth. The other and most northerly commences a short distance to the north of the city of Ottawa in Hull township and runs northward along and between the Gatineau and DuLievres rivers for a great number of miles, embracing upwards of one dozen townships. The former of these—best known as the Perth and Burgess district—has been more or less mined for a period of thirty years or more, whilst in the latter, mining operations, of any importance, do not date much further back than the year 1872. Separated, however, as are these mining sections, they are both traversed by the same set or series of rocks, those of Ottawa county being but the northward extension of those in the Perth and Burgess district; the explanation of the apparent break or gap between Perth and Ottawa city being simply the coming in of the lower Silurian division—limestones and sandstones—horizontally arranged on top of the older and tilted metamorphic series.

Ottawa city stands on these flat-lying Lower Silurian rocks, but on crossing to Hull township, immediately on the opposite side of the Ottawa river, the old crystalline rocks again come into view, and here at once the iron ores and phosphate deposits also reappear. In both sections named, besides phosphate of lime, there occur numerous deposits of iron ore and plumbago in large and workable quantities. The iron-ore horizons are invariably the lowest, while the apatite and plumbago are very intimately associated, but in distinct horizons. There are, however, occasionally small deposits of red hematite found in the apatite horizon, in a condition which explains the origin of "red phosphate."

Everywhere throughout both phosphate sections there exists great volumes of garnet-bearing gneiss and quartzite, pyroxene (not a gneiss) and important bands of crystalline limestone containing a considerable amount of serpentine and phosphate in crystals of all sizes. The economic deposits of phosphate of lime, however, do not occur in the limestone belts, but rather in the pyroxenic rock interposed between these. The mineral does not occur in fissure vein-forms as a general rule, but rather as great lenticular-shaped masses along certain lines of stratification. Occasionally a ramification of small veins connects one deposit with another in different planes of stratification, but these in all probability have been more recent infiltrations. In fact, when I say that the mineral occurs in similar conditions to those of magnetic iron ore, all practical miners will understand me.

In the Perth and Burgess section, and all the way through towards Kingston on the St. Lawrence, the phosphate rocks lie in shallow and oft-repeated trough or synclinal forms; consequently there is a great display of surface mineral and but little deep mining. The only shaft of any depth is situated in North Burgess, and is, or was at the date of my last notes, 110 feet deep. This shaft has now been abandoned for a number of years. In Ottawa county, on the contrary, the rocks incline steeply, and, though arranged in a trough or synclinal form, this is of much greater depth than any in the Burgess section. There is, for example, one continuous outcrop of phosphate rocks extending northward up the Gatineau valley for upwards of fifty miles, along the western margin of the trough form, and another and similar outcrop along the course of the DuLievres river valley on the eastern margin. Between these two outcrops higher rocks come in filling up the centre of the synclinal form.

So far, only the southern portions of these two belts of phosphate rock have been tested by miners; namely, in the townships of Hull, Templeton, Buckingham, Wakefield and Portland. Prospectors, however, have discovered numerous other valuable deposits in the townships to the northward. In the townships just named the rocks are everywhere intersected by a series of black weathering

trap dykes, which seem to be in some way connected with the more important of the mineral deposits; and as these dykes have not been met with to any great extent beyond a comparatively few miles to the northward of the Ottawa river, I am inclined to the opinion that no very extensive deposits of phosphate of lime will be met with in this direction. Specimens of the mineral, however, have been discovered and brought from points fifty and more miles up the Gatineau, and I have myself come upon phosphate-bearing rock upwards of ninety (90) miles from the mouth of the same river. *There is but one true productive horizon of phosphate rock, and this we have recently succeeded in tracing and mapping in considerable detail throughout Ottawa county.*

**CONDITIONS OF MINERAL.**

There has been a great deal said and written about the mining of phosphate of lime in granite and limestone rock, and the mineral has been frequently referred to as occurring in the form of crystals imbedded in limestone. Now, whilst it is true that crystals of phosphate do occur in one or more of the limestone bands of Ottawa county, this form of deposit is by no means the chief or most important; on the contrary it is the most irregular and unimportant. Practical and experienced miners abhor the "coming in" of limestone, as in this matrix the mineral becomes mixed or associated with many impurities. In the granite I have never yet discovered a single trace of phosphate, and indeed granite is of very exceptional occurrence in the true phosphate-bearing series of rocks. What, however, has been called granite is undoubtedly the granite-like pyroxenic rock which is interstratified between the bands of limestone. In the chief and most profitably worked mines of Ottawa county but very little limestone has been met with. (Occasionally a nest-like aggregation of flesh-red or salmon-colored calc-spar with large crystals of mica is struck in the body of the pyroxene rock, but this, in most instances, is speedily shot off. When, however, these calcareous nests continue to make their appearance, it is an almost sure indication that the miner has lost the "thread of his discourse," and there is nothing left for him but to "back water." We also hear occasionally of "picking out the phosphate" on the surface of the hills at but very trifling cost beyond that of the laborers' wages, but such instances are indeed of very rare occurrence. The rock in which the greater number of deposits occur is of the toughest description, and the continual sharpening of the drills forms a very considerable item in the expenditure. On the average, perhaps, calculating from records before me of actual mining operations extending over a period of several years, the cost of extracting the phosphate may be set down at from six to eight dollars per ton.

**The Maine Coast.**

The influx of visitors at Maine summer resorts is, to the surprise of many, in excess of any previous year. The hotels and boarding houses at the seaside and at the lakes are all full, and at the former places the proprietors will, generally speaking, more than make up for the dullness of the early summer. The warm weather of the past few weeks has given a great impetus to summer travel, and the trains and steamboats which bring strangers into Maine are all well filled. Probably there has been no season for several years when the Maine coast has been so free from fog during the month of July as the present, and in fact everything has seemed to favor the pleasure-seeker. The fish are biting well, also, at the lakes, and many are the visitors that have been made happy by a fine "catch" of fresh water fish. Truly there is no place like Maine for the summer tourist, for nowhere else can he find so many varied attractions within easy reach of each other and the great commercial and business centres; the hotels throughout the district are first-class in every respect, and the scenery on coast and river is unsurpassed.—*Maine Mining News.*

Philosophy is a good horse in the stable, but an arrant jade on a journey.—Goldsmith.

The bell never rings of itself, unless some one handles or moves it; it is dumb.—Plautus.

**August Northern Lights.**

A very brilliant display of the AURORA was observed on the night of the 4th August from Old Orchard Beach. It was said to be the most brilliant that had occurred since the grand display of April last. At Hudson, N. Y., the Register referred to this display as follows:

**A BEAUTIFUL AURORA.**

A display of the aurora borealis, the most brilliant that has been seen here since the great spectacle of April, attracted much attention from the crowds in the streets last night. Streamers at times shot up to the zenith from a broad, bright arch of light in the north. The arch occasionally faded out and then grew brighter again, and sometimes a second fainter arch was visible above it, while below a straight band of light ran along a few degrees above the horizon. One of the most singular appearances was a series of short, crescent-shaped, cloud-like objects ranged one above another, reaching from the northeastern horizon more than half way to the zenith. Their light flickered and pulsed, and the stars shone through them. While the auroral display was yet visible, at about 11.15 o'clock, a fiery meteor shot through the sky, passing from east to west, and leaving a long trail of a reddish color behind it.

**MONTREAL STAR.**

Last evening the heavens were wonderfully illuminated with as splendid an exhibition of the Aurora Borealis or Northern Lights, as has been seen for years, in fact many people say they have never seen it surpassed. The greatest brilliancy was reached about 9 p.m., the auroral arch, which then seemed to stretch from north to east with brilliant rays jutting forth, suddenly broke, and a marvellous transformation took place difficult to describe. Various theories have been advanced as to the cause of these displays, but that which receives the most acceptance at present is that it is an electric discharge connected with magnetic disturbances. In high altitudes a loud noise is said to accompany the display. It has been related that in Siberia this noise resembles that attending the discharge of fireworks, and that the dogs of the hunters, when overtaken by such an aurora, lay themselves with terror on the ground. About the same time last evening numerous falling stars were noticed towards the south-west, their colors being exceedingly beautiful.

**SOUTH NORWALL, Ct. Aug. 4, 1881.**—There was a fine display of aurora borealis here to-night, waves and streaks of light from the north-east, north-west, advancing and receding. There was also a broad electric belt which was from east to west across the zenith, making a grand display of meteors shooting from beneath the belt like rockets.

**The Climate.**

Figures gleaned from the observation points of forty-nine States and Territories show that the hottest places in the Union are Florida, Louisiana and Arizona, the mean annual temperature of which is 69. Texas ranks next at 67, Alabama 66, Mississippi 64, Arkansas 63, South Carolina 62, Indian Territory 60, North Carolina 59. Georgia and Tennessee stand on a par at 58, Virginia 57, Kentucky 56. The mean temperature of 55 prevails in California, Missouri and the District of Columbia; 54 in Maryland and Pennsylvania, 53 in Delaware, Ohio and Oregon, 52 in Idaho, Utah and West Virginia. 51 in Indiana, Kansas, New Mexico and Washington Territory, 50 in Connecticut, Illinois, Nevada and New Jersey, 49 in Iowa and Nebraska; Massachusetts ranks with Rhode Island, New York and Colorado at 48; Michigan and Dakota are equal at 47; Alaska is not the coldest part of the Union, as is commonly supposed, but stands with New Hampshire at 46; colder than these are Maine and Wisconsin at 45, Montana and Vermont at 43, Minnesota at 42, and coldest of all, Wyoming at 41.

"An old lady friend says she can very well tell when the election will be held and when spring chickens are fit to fry, but she can't tell when these heavy rains will stop. Can you tell her? [She should ask Mr. Vennor.] Ed.] H.C."

### Heating and Cooling Air.

(Commercial, Cn., O.)

In my communication on "The Principles Involved in Heating and Cooling Air," published in this morning's paper, the typos make me to say that "in converting water at 32° into steam, an additional amount of sensible heat, equivalent to 1146°, is rendered latent," where, in fact, I said 1146 without any decimal point.

What I wanted to have understood was, that enough sensible heat is rendered latent in converting one pound of water at 32° into steam to raise the temperature of one pound of water from 32° to 1146°, or to more than the temperature of red-hot iron, or ten pounds of water from 32° to 1146°. The error is a very small one, consisting only of a point, but that point is a decimal point, and a decimal point is a very important thing if it happens to get out of place, as for example thus: \$10.00—\$1000—which, you see, is not exactly the same thing. The conversion of ice into water renders latent an amount of sensible or free heat sufficient to raise an equal weight of water 140°, or from 32° to 172° Fah. In converting water at 32° into steam it must first be raised to the boiling point, which is 212°, which is hot as water can be made when heated in an open vessel. In the conversion of boiling water into steam, enough sensible heat is rendered latent to raise the equivalent of the steam in boiling water 966.6° above the boiling point, 212°. Please correct and oblige

Yours truly,

JOHN KING.

August 10, 1882.

### Try to Please Everybody and You'll Please None.

(Boston Post, July Weather.)

A season of unusual character is sure to call forth, even from persons of much experience, the observation that they remember nothing like it before. In truth, the power of accurately recalling past weather is excessively rare; and, in the absence of precise records, the memories of the oldest inhabitant must be received with doubt. The weather which is fine we accept as a matter of course, and forget it as soon as it is over; while that which is the reverse of fine scarcely produces a more permanent impression. It is said, by those who have studied such subjects that no effort of memory can recall a vivid impression of past pain, and there is probably much truth in the statement. The power of appealing correctly to experience, which superficial people regard as an elementary gift of nature is, in fact, a product of the highest intellectual cultivation, and is simply impossible to the illiterate or untalented. There may be no intention to deceive, but there is an incapacity to observe or record with accuracy. Astronomers tell us that the regions of the earth which now enjoy a temperate climate will at some remote future pass once more through a glacial epoch, but it is a favorite assertion with the aged that the climate of these islands is manifestly diminishing in severity. There are no such winters now, we hear, as those of the "good old times," when scarcely a December passed in which the squire's horses requisitioned in order to assist in dragging the mail coach out of the snow-drifts, or the able-bodied men of the parish to cut a passage for it with their picks and spades. Two years ago the snow in Oxford street might have rivaled, even if it did not surpass the best achievements of Salisbury. Plain in the days of our grand fathers, the truth probably is that the seasons moved very much in cycles, the causes of which we may hope that meteorology will some day unravel.

On the Portland, Me. coast the weather during the greater portion of July remained hot and dry, although to the Westward and Northward frequent rains and thunder-storms occurred. The most prevalent winds were from Westerly and Southerly points. This condition, we were informed, was unusual for this section of the Atlantic Coast.

### A Rain of Spider Webs.

(FROM THE SCIENTIFIC AMERICAN.)

In the latter part of October the good people of Milwaukee (Wis.) and the neighbouring towns were astonished by a general fall of spider webs. The webs seemed to come from "over the lake," and appeared to fall from a great height. The strands were from two feet to several rods in length. At Green Bay the fall was the same, coming from the direction of the bay, only the webs varied from sixty feet in length to mere specks, and were seen as far up in the air as the power of the eye could reach. At Nesberg and Fort Howard, Sheboygan, and Ozaukee, the fall was similarly observed, in some places being so thick as to annoy the eye. In all instances the webs were strong in texture and very white.

Curiously there is no mention, in any of the reports that we have seen, of the presence of spiders in this general shower of webs. It is to be hoped that some competent observer—that is, some one who had made a study of spiders and their habits—was at hand and will report more specifically the condition of this interesting phenomenon.

Quite a number of notable gossamer showers have been reported in different parts of the world. Whites describes several in his history of Selborne. In one of these the fall continued nearly a whole day, the webs coming from such a height that from the top of the highest hill near by they were seen descending from a region still above the range of distinct vision.

Darwin describes a similar shower observed by him from the deck of the Beagle, off the mouth of La Plata River, when the vessel was sixty miles from land. He was probably the first to notice that each web of the gossamer carried a Lilliputian aeronaut. He watched the spiders on their arrival and saw many of them put forth a new web and float away.

The behaviour of the spiders when setting out upon their aerial voyage has been minutely described by a recent English observer. The shower observed by him occurred in September, 1875, after a thunderstorm without rain. He says:

"About ten a.m. I noticed small spiders running over my coat-sleeves, and had to brush off several trails of gossamer web. Looking round I found that brick walls, houses, branches of trees, &c., had these webs dangling from them, and that other gossamer webs were continually falling from above and adding to the accumulation. By mid-day a long fence was festooned from point to point of its triangular railtops with a ribbon-like ladder of gossamer; and this was growing broader and broader as the tiny creatures kept running along the ladder, each increasing the breadth by adding its own contribution of another silken thread.

"On examining next an iron palisade near I found it in a similar condition, with the tops of the iron spikes connected by a vibrating silken ladder of gossamer, in some place nearly an inch broad. All along this ladder the little strangers were running in an excited and hurried manner, as if they had lost their way and had got into a strange country. Some, in travelling over their improvised road, made mistakes, and got into bordering webs of the garden spider, where they were speedily devoured. About 1 p.m. the cloud cleared off the sun shone out, and I noticed that some of the spiders had begun to reascend into the atmosphere. They might have commenced this reascension earlier; but on observing that some were reascending all my attention was devoted to single spiders, and this is what I saw: Fixing my eyes upon one of them, I observed that as it left the gossamer pathway it selected a clean spot on the iron railing, and gathering its limbs closely together it projected from its spinnerets several threads, which ex-

panded outward and stretched upward from nine to twelve inches. Then this parachute seemed to show a buoyant tendency and suddenly the tiny creature left hold of the iron rail, or was lifted off it, and quickly "vanished into the air." One after another I closely watched, with the same general result; though once or twice when the spider left the rail it floated for a few seconds in an almost horizontal direction, prior to changing for an approximately vertical one. They, however, disappeared from sight so quickly that the angle of ascent could only be guessed at. This however, may be set down, as the rule, as from miles to one hundred and twenty degrees."

### Buttermilk as a Summer Drink.

A recent writer asserts that for a hot-weather drink nothing equals buttermilk. It is, he says, "both drink and food, and for the laborer is the best known. It supports the system, and even in fever will cool the stomach admirably. It is also a most valuable domestic remedy. It will cure dysentery as well as and more quickly than any other remedy known. Dysentery is really a constipation, and is the opposite of diarrhoea. It is inflammation of the bowels with congestion of the 'portal circulation'—the circulation of blood through the bowels and liver. It is a disease always prevalent in the summer and autumn. From considerable observation I feel warranted in saying that buttermilk, drunk moderately, will cure every case of it; certainly when taken in the early stages."

### Milk Diet.

If any one who wishes to grow fleshy, a pint of milk taken on retiring at night will soon cover the scrawniest bones. Although we see a good many fleshy persons now-a-days, there are many lean and lank ones, who sigh for the fashionable measure of plumpness, and who would be vastly improved in health and appearance could their figures be rounded with good solid flesh. Nothing is more coveted by a thin woman than a full figure, and nothing will so raise the ire and provoke the scandal of the "clipper-built" as the consciousness of plumpness in a rival. In a case of fever and summer complaint milk is now given with excellent results. The idea that milk is feverish has exploded, and is now the physician's great reliance in bringing through typhoid patients, or those in too low a state to be nourished by solid food. It is a mistake to scrimp the milk pitcher. Take more milk and buy less meat. Look to your milkman; have large-sized, well-filled milk pitchers on the table each meal, and you will have sound flesh and save doctor's bills.—Housekeeper.

### More August Disturbances.

SERIOUS DAMAGE TO CROPS IN OHIO.

Cleveland, O., August 9. The *Leader's* special from various places show that heavy rains have fallen throughout northern Ohio every day for nearly two weeks, doing great damage to crops. In many localities the hay crop will be a total loss. Wheat in shocks and stacks has been so wet that it is beginning to sprout and spoil. The oats crop is nearly ruined in several sections, and much damaged everywhere. Corn is seriously injured, though that plant being late is least affected. Rains have been deluges in miniature, the like of which was never known. Previous to this visitation the crop promised an unprecedented yield.

TIMELY RAIN IN NEW YORK.

Watertown, N.Y., August 9. During the last 36 hours most copious rains have fallen over this section of the country. It was much needed. Considerable damage was done by lightning. A large crop of hay has been secured in fine condition. The prospects for a large yield of barley, oats, wheat, corn and potatoes are uncommonly good.

TOO MUCH RAIN IN CANADA.

London, Ont., August 9. A heavy rainstorm in this section yesterday did great damage to crops, particularly of wheat and barley.

**Sunstroke.**

The New York City Board of Health has issued the following circular on the prevention of sunstroke, which we reprint for the benefit of our readers:—

Sunstroke is caused by excessive heat, and especially if the weather is "muggy." It is more apt to occur on the second, third, or fourth day of the heated term than on the first. Loss of sleep, worry, excitement, close sleeping-rooms, debility, abuse of stimulants, predispose to it. It is more apt to attack those working in the sun, and especially between the hours of eleven o'clock in the morning and four o'clock in the afternoon. On hot days wear thin clothing. Have as cool sleeping-rooms as possible. Avoid loss of sleep and all unnecessary fatigue. If working indoors and where there is artificial heat (laundries, etc.), see that the room is well ventilated.

If working in the sun, wear a light hat (not black, as it absorbs the heat), straw, etc., and put inside of it, on the head, a wet cloth or a large green leaf; frequently lift the hat from the head, and see that the cloth is wet. Do not check perspiration, but drink what water you need to keep it up, as perspiration prevents the body from being overheated. Have, whenever possible, an additional shade, as a thin umbrella when walking, a canvas or board cover when working in the sun. When much fatigued do not go to work, but be excused from work, especially after seven o'clock in the morning on very hot days, if the work is in the sun. If a feeling of fatigue, dizziness, headache, or exhaustion occurs, cease work immediately, lie down in a shady and cool place, apply cold cloths to and pour cold water over head and neck. If any one is overcome by the heat, send immediately for the nearest good physician. While waiting for the physician, give the person cold drinks of water, or cold black tea or cold coffee, if able to swallow. If the skin is hot and dry, sponge with or pour cold water over the body and limbs, and apply to the head pounded ice wrapped in a towel or other cloth. If there is no ice at hand, keep a cold cloth on the head, and pour cold water on it, as well as on the body.

If the person is pale, very faint, and pulse feeble, let him inhale ammonia for a few seconds, or give him a teaspoonful of aromatic spirits of ammonia in two tablespoonfuls of water with a little sugar.

**Getting Ready for the Flood.**

For several weeks past the curiosity of the passengers on the Alleghany Valley railroad has been excited by a curious looking contrivance in course of construction on the banks of the Alleghany river, near Pine creek, a station between Pittsburg and Red Bank. The contrivance is a wooden ark 228 feet long, 48 feet wide and 16 feet high. The constructor is a crank, named John L. Randolph. The capacity of the ark will be 100 tons. There will be two decks, an upper and lower. The lower deck will be divided off into innumerable compartments, which will contain all the different specimens of domestic and wild animals that the rank can procure, in pairs, between the time of the completion of the "ark" and the advent of the flood, which he has set down on his "log book" for October 18 of this year. The upper deck will be for humanity, and the projector's aim will be for to have all the races represented. His next aim will be to have all the trades and professions represented, especially the newspaper. Randolph is giving the construction of the sloop his personal attention. The first deck is well under way, and he confidently expects to have it in readiness for the grand finale by the first of September.

All storms move east and never west, nor north, nor south. Every bit of weather in this country is made in the northwestern part of the Rocky Mountain. Experience and observation have shown that one year's mean temperature does not vary from that of another over 6°. Take it all in all, Winnipeg or Manitoba shows up the most cold weather in a year.—*Weather Bureau.*

Metecors were numerous and of nightly occurrence during the last few days of July and first part of August.

He who knows most grieves most for wasted time.—Dante.

**Odelette.**

HANLEY YORKE

All the grass is growing,  
All the flowers are blowing;  
'Tis thy love alone is withering  
Night and day.

Now to every valley  
Melted streamlets rally;  
'Tis thy love alone is freezing  
Night and day.

Sweet the opening flowers,  
Sweet the greening bowers;  
'Tis thy love alone is bitter  
Night and day.

Sweet the zephyr's sighing  
When the day is dying;  
'Tis thy love alone is tuneless  
Night and day.

Radiant rise the mountains,  
Laughing dance the fountains;  
'Tis thy love only weepeth  
Night and day.

*From the Academy.*

Every man is the architect of his own fortune.—Sallust.

A pleasing countenance is a silent commendation.—Syrus.

Whilst you seek new friendships, cultivate the old.—Hermes.

**OUR MEDICAL BASKET.**

*(The following Recipes and Treatment will be found invaluable.)*

**Salt for the Throat.**—Diseases of the throat are so prevalent, and in so many cases fatal, that a word in behalf of a most effectual, if not positive, cure for sore throat is timely. For more than forty years we have been subjected to sore throat, and more particularly to a dry, hacking cough, distressing to ourself and those with whom we are brought into contact. We were induced to try the virtue of common salt. We commence by using it three times a day, morning, noon and night. Dissolve a large teaspoonful of pure salt in a small tumblerful of water. With this gargle the throat most thoroughly just before meal-time. During the entire winter we were not only free from coughs and colds, but the dry, hacking cough entirely disappeared. We attribute these satisfactory results to the use of the salt gargle, and recommend it to those who are subject to diseases of the throat. Persons who have never tried the salt gargle have the impression that it is unpleasant. Such is not the case.

**Cure for Croup.**—A medical journal says croup can be cured in one minute, and the remedy is simply alum and sugar. The way to accomplish the deed is to take a knife or grater and shave off in small particles about a teaspoonful of alum; then mix it with twice its quantity of sugar to make it palatable, and administer as quickly as possible. Almost instantaneous relief will follow.

**Lemon-juice Liniphtheria.**—A most efficient means for the removal of membrane from the throat, tonsils, etc. in diphtheria: The juice of a lemon applied by means of a camel's hair brush to the affected part every two or three hours.

**Whooping Cough.**—The following is a specific for whooping cough, and will cure in from two days to two weeks: Nitric acid, diluted, twelve fluid drachms; compound tincture of cardam-

oms, three fluid drachms; syrup, three and a half fluid ounces; water, one fluid ounce. Mix. One to two teaspoonful every two hours, according to the age of the child.

**Mixture for a Cough or Cold.**—Take one teacupful of flaxseed and soak it all night. In the morning put into a kettle two quarts of water, a handful of liquorice-root split up, one quarter of a pound of raisins broken in half. Let all boil half an hour or more, watching and stirring, that the mixture may not burn. Then strain and add lemon juice and sugar.

**Flaxseed Syrup.**—This excellent remedy for cough is made thus: Boil one ounce of flaxseed in a quart of water for half an hour; strain and add to the liquor the juice of two lemons and half a pound of rock candy. If the cough is accompanied by weakness and a loss of appetite, add half an ounce of powdered gum-arabic. Set this to simmer for half an hour, stirring it occasionally. Take a wine-glassful when the cough is troublesome.

**To cure Sore Throat.**—Take the whites of two eggs and beat them with two spoonfuls of white sugar; grate in a little nutmeg, and then add a pint of lukewarm water. Stir well and drink often. Repeat the preparation if necessary and it will cure the most obstinate case of hoarseness in a short time.

**Recipe for Croup.**—Take the yolk of an egg, stir into it a teaspoon and a half of rye meal; spread this on a cloth and apply it to the throat and keep the child warm. If it is very tight. Before you can apply this remedy, cause a vomit, and then put on the egg.

**Remedy for Earache.**—Take a bit of cotton batting, put upon it a pinch of black pepper, gather it up and tie it; dip in it in sweet oil and insert it in the ear. Put a flannel bandage over the head to keep it warm. It will give immediate relief.

**Cure for Hiccough.**—Hold both the patient's wrists tightly, and it will stop the hiccoughs immediately.

**Lemon for Cough.**—Roast the lemon very carefully without burning it; when it is hot, cut and squeeze into a cup upon three ounces of sugar, finely powdered. Take a spoonful whenever your cough troubles you. It is good and agreeable to taste. Rarely has it been known to fail of giving relief.

**For Croup.**—Slice onions, and put sugar on the slices in layers.—The syrup being administered. Keep it before the people as a sovereign and almost instantaneous remedy.

**To Cure Hoarseness.**—When the voice is lost, as it is sometimes the case from the effects of a cold, a simple, pleasant remedy is furnished by beating up the white of an egg, adding the juice of one lemon, and sweetening with white sugar to the taste. Take a teaspoonful from time to time. It has been known to effectually cure the ailment.

**Remedy for Croup and Cough.**—It has never failed in relieving a cough and curing the croup when given in season: Sweet spirits of nitre half an ounce, sweet oil half an ounce, juice of one large lemon, honey one gill, lobelia half an ounce; dose, one teaspoonful every time you cough. Shake the bottle well every time before turning out.

**Neuralgia.**—A very simple relief for neuralgia is to boil a handful of lobelia in half pint of water till the strength is out of the herb, then strain it off and add a teaspoonful of fine salt. Wring cloths out of the liquid as hot as possible and spread over the parts affected. It acts like a charm. Change the cloths as soon as cold till the pain is gone; then cover the place with a soft dry covering till all perspiration is over, so as to prevent taking cold.

**Earache.**—For earache dissolve assafetida in water; warm a few drops and drop in the ear; then cork the ear with wool.

—A piece of cotton moistened and filled with salt and alum applied to an aching tooth will give instant relief.

**Important Hints about the Feet.**—As the feet are kept more closely covered than any other part of the body during the day, they should be thoroughly washed and rubbed till dry every night. Impurities gather as the result of the confined perspiration, and these should be removed before sleeping.

**To Cure Corns.**—Take the substance which sticks to the side of a soft-soap barrel after the soap is used out, and mix with pulverized white chalk to the consistency of a salve. Apply every twelve hours in a rag until the corn is removed. It will cure every case of corns in six days.

**Cubeb-berries for Catarrh.**—A new remedy for catarrh is crushed cubeb-berries smoked in a pipe, emitting the smoke through the nose; after a few trials this will be easy to do. If the nose is stopped up, so that it is almost impossible to breathe, one pipeful will make the head as clear as a bell. For sore throat, asthma and bronchitis swallowing the smoke affords immediate relief. It is the best remedy in the world for offensive breath, and will make the most foul breath pure and sweet. Sufferers from that horrid disease, ulcerated catarrh, will find this remedy unequalled, and a month's use will cure the most obstinate case. A single trial will convince any one. Eating the uncrushed berries is also good for sore throat and all bronchial complaints. After smoking, do not expose yourself to cold air for at least fifteen minutes.

**Bleeding.**—To stop bleeding take the fine dust of tea and bind it on the wound—at all times accessible and easily obtained. After the blood has ceased to flow, laudanum may be advantageously applied to the wound. Due regard for these instructions may save much trouble.

**Sure Remedy for a Felon.**—Take a pint of common soft soap and stir in air-slaked lime till it is of the consistency of glazier's putty. Make a leather thimble, fill it with this composition and insert the finger therein, and a cure is certain.

**Chapped Hands.**—Rub the hands thoroughly with linseed oil, then wash in castile or bar soap. It will remove pitch, and when the hands have become grimy by hard work it will make them clean and soft. It is the best thing to remove cracks or sores in cows' teats; moisten them with oil after the milk is drawn. It will also remove any scent from the hands after milking.

**A New Cure for Rheumatism.**—One of the latest things is that celery is a cure for rheumatism; indeed, it is asserted that the disease is impossible if the vegetable be cooked and freely eaten. The fact that it is almost always put on the table raw prevents its therapeutic powers from becoming known. The celery should be cut into bits, boiled in water until soft, and the water drunk by the patient. Put new milk, with a little flour and nutmeg, into a saucepan with the boiled celery; serve it warm with pieces of toast, eat it with potatoes, and the painful ailment will soon yield. Such is the declaration of a physician who has again and again tried the experiment, and with uniform success.

**A Recipe for Rheumatic Liniment.**—Such excellent results follow from the following recipe for rheumatic affections that it would be doing good to a great many to place it within the reach of all: Oil origanum, one ounce; oil cedar, one ounce; gum camphor, two ounces; cayenne pepper, two ounces; castile soap, two ounces; alcohol, one pint. Apply with

flannel and heat. *Not to be used in the region of the lungs.* Any physician can tell you that it is safe; any one who has tried it will be likely to say it is more.

**Scalds and Burns.**—Instantly and liberally apply dry flour, and keep it in its place by a bandage. Another excellent application is "prepared lard"—that is, lard without salt. Druggists keep it. If only salt lard is at hand, wash out the salt in cold water. Do not apply cold water, salt, spirits or vinegar. If the burn be in the leg or foot, slit the stocking, so as to avoid breaking the skin.

**Dressing Scalds or Burns.**—Do not wash the wound, and do not dress it oftener than on alternate days. Do not rub or roughly handle the affected parts. If there be much discharge, do not wipe, but gently sop with soft cloth. No ulcer should be often dressed, as by removing the excrement we are likely to rub off also the new flesh.

**Scalds and Burns.**—One of the simplest and most useful remedies for scalds and burns is said to be an embrocation of lime-water and linseed oil. These simple agents combined form a thick, cream-like substance which effectually excludes the air from the injured parts and allays the inflammation almost instantly. The remedy leaves no hard coat to dry on the sores, but softens the parts, and aids Nature to repair the injury in the readiest and most expeditious manner. The mixture may be procured in the drug-stores; but if not accessible, slack a lump of quicklime in water, and as soon as the water is clear mix it with the oil and shake it well. If the case is urgent, use boiling water over the lime, and it will become clear in five minutes. The preparation may be kept ready bottled in the house, as it will be as good when six months old as when first made.

**New Cure for Burns.**—It has been ascertained that the very best remedy for burns and scalds is the application of common cooking soda or any other alkali in a neutral form, which will afford instantaneous cessation from pain. In all cases of superficial burning this simple treatment will effect a perfect cure in a few hours, and the severest burns and scalds soon yield to it.

**Burns.**—Alcohol applied immediately will give instant relief to burns and scalds, and generally prevent blistering. If it is a part of the body that cannot be immersed in the alcohol apply it with a piece of cotton wet with it. Avoid the fire when using it, as it is inflammable.

**Burns and Scalds.**—The true physiological way of treating burns and scalds is to at once exclude the air with cotton batting, flour, scraped potato or anything that is handiest.

**Sick Stomach.**—The following drink for relieving sickness of the stomach is said to be very palatable and agreeable: Beat up one egg very well, say for twenty minutes; then add fresh milk one pint, water one pint, sugar to make it palatable; boil, and let it cool; drink when cold. If it becomes curds and whey, it is useless.

**Fainting.**—Lay patient flat on the back, with head as low or lower than the body; unloose dress; apply smelling-salts to nostrils, or, if they are not at hand, burn a piece of rag under nose; dash cold water in the face; give fresh air.

**Poison.**—A poison of any conceivable description and degree of potency which has been intentionally or accidentally swallowed may, it is said, be rendered almost instantly harmless by simply swallowing two gills of sweet oil. A person with a very strong constitution could take nearly twice the quantity. This oil, it is alleged, will most positively neutralize every

form of vegetable, animal or mineral poison with which physicians and chemists are acquainted.

**Antidote for Poison.**—A standing antidote for poison by dew, poison oak, ivy, etc., is to take a handful of quicklime, dissolve in water, let it stand half an hour, then paint the poisoned parts with it. Three or four applications will never fail to cure the most aggravated cases. Poison from bees, hornets, spiderbites, etc. is instantly arrested by the application of equal parts of salt and bicarbonate of common soda well rubbed in on place bitten or stung.

**Poison Ivy.**—The *Medical Record* gives a specific for the troublesome eruption produced by the poison oak or poison ivy (*Rhus toxicodendron*) so common in our woods, and so often mistaken for the Virginia creeper, which the plant somewhat resembles. The specific is found in bromine. The drug is dissolved in olive oil, cosmoline or glycerine, in the strength of from ten to twenty drops of bromine to the ounce of oil, and the mixture rubbed gently on the affected part three or four times a day. The bromine is so volatile that the solution should be renewed within twenty-four hours from its preparation. The eruption never extends after the first thorough application, and it disappears within twenty-four hours if the application is persisted in, and the patient is entirely cured.

**An Alleged Remedy for Hydrophobia.**—When bitten by a rabid dog bathe the wound with warm vinegar and water, and when, this has dried pour a few drops of muriatic acid upon the bite, which will destroy the poison of the saliva and relieve the patient from all danger. An old German forester discovered the remedy, which he said had been used successfully for fifty years.

**Hydrophobia.**—Garlic has always had a great reputation among anti-hydrophobia remedies, and is found as a principal integral portion in a large number of formula long kept secret. A young man bitten by a mad dog was shut up in a loft. In his delirium he seized upon some bundles of dried garlic, ate greedily of it, fell into a deep sleep, and awoke calm and cured.

—Youatt, the well known veterinary surgeon who has been bitten eight or ten times by rabid animals, says that crystals of the nitrate of silver rubbed into the wound will positively prevent hydrophobia in the bitten person or animal.

**Bunions.**—To cure bunions use pulverized saltpetre and sweet oil. Obtain at a druggist five or six cents' worth of saltpetre; put it into a bottle with sufficient olive oil to dissolve it, shake it up well, and rub the inflamed joints night and morning, and more frequently if painful.

**Cure for a Bone Felon.**—Of all painful things, can there be anything so excruciatingly painful as a bone felon? As soon as the disease is felt put directly over the spot a fly blister about the size of your thumbnail, and let it remain for six hours, at the expiration of which time directly under the surface of the blister may be seen the felon, which can be instantly taken out with the point of a needle or a lancet.

**Purified Air.**—To purify the air by the cheapest and simplest method set a pitcher of water in a room, and in a few hours it will have absorbed all the respired gases in the room, the air of which will have become purer, but the water utterly filthy. The colder the water is, the greater the capacity to contain these gases. At ordinary temperature a pail of water will contain 2 pint of carbonic acid gas and several pints of ammonia. The capacity is nearly doubled by reducing the water to the temperature of ice. Hence, water kept in a room a while is always unfit for use. For the same reason the water from a pump should always be pumped up in the morning before any of it is used. Impure water is more injurious than impure air.

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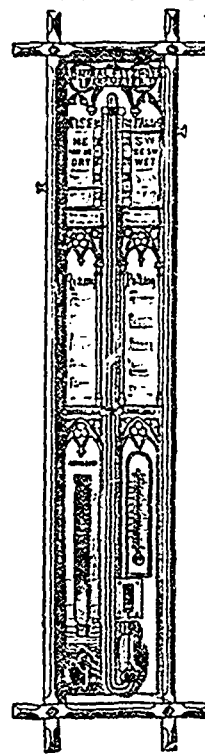
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