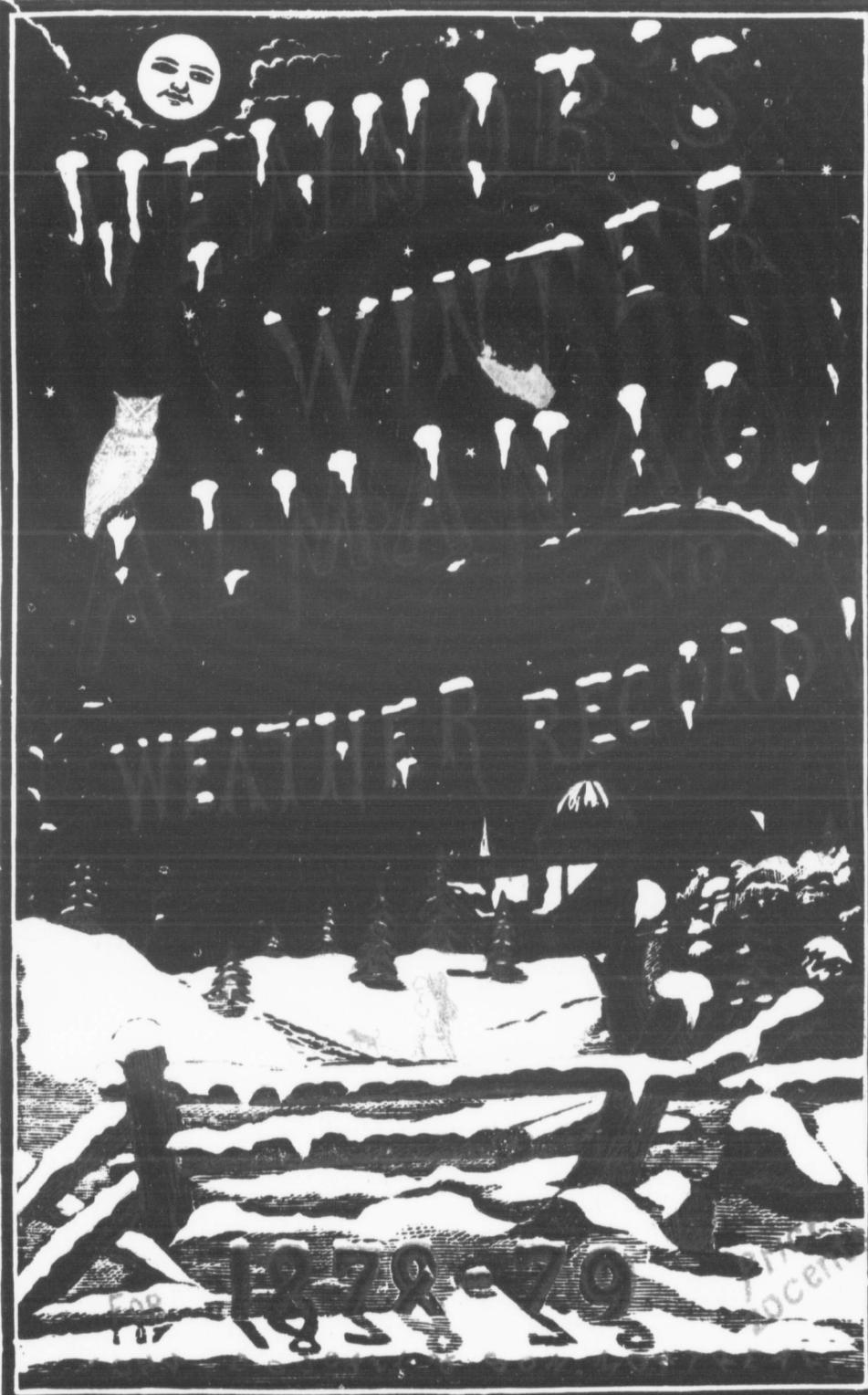


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VENNOR'S ALMANAC  
AND  
WEATHER RECORD  
FOR  
1878-9.



HENRY G. VENNOR, F. G. S.

Montreal:

"WITNESS" PRINTING HOUSE, BONAVENTURE STREET.

1879.

The weather is by no means a subject which should be regarded merely as a matter of conversation for the multitudes of people who find it difficult to talk about anything else. The subject is, in reality, one of great national importance; of far more importance than many others which occupy the time and the thoughts of the public; and it is only neglected on account of the obscurity behind which the causes of weather changes have been hitherto concealed, and of the consequent apparent futility of discussing them. If any scientific investigations could bring the subject of weather changes within the region of actual knowledge, so that reasonable forecasts might be made concerning them, it would at once become manifest that scarcely any other subject could vie with them in universality of interest. The power of foreseeing the weather of the next few days would do much, the power of foreseeing the weather of the next season would do almost everything, to take away from agriculture the uncertainty which is now its greatest hindrance; and a bad harvest season would then no longer, as at present, entail upon the nation a loss which must be estimated by millions.— *London Times*.

Registered in accordance with the Act of Parliament, in the year one thousand eight hundred and seventy-eight, by JOHN DOUGALL & SON, in the Office of the Minister of Agriculture, Ottawa.

Printed and Electrotyped at the Witness Establishment, 33 to 37 St. Bonaventure Street, Montreal.

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## INTRODUCTION.

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The expression of the *London Times* which is reproduced on the preceding page, but feebly indicates the great interest which is now being taken in the science of meteorology and its great importance and value. The opinion has been slowly but firmly imprinting itself upon scientific men, that while the secrets of the weather appear to be very closely kept, they are not impenetrable, and not only Mr. Vennor, in Canada, but thoughtful and learned men in England, France, Germany and the United States, are devoting their chief attention to discover them.

It is evident that there must be causes for the various changes in the weather, which is much less variable than is generally believed, and if these causes can be arrived at the character of a season must be capable of being determined for months ahead, although not with the exactitude shown in pre-recording the movements of the planets. This view was held by Sir John Leslie many years ago, who thus expresses it: "It cannot be disputed that all the changes which happen in the mass of our atmosphere—involved, capricious and irregular as they may appear—are yet the necessary results of principles as fixed, and perhaps as simple, as those which direct the revolution of the Solar system." The same plan for arriving at the secrets of the weather is being followed out in all the countries mentioned. The changes are being closely watched and recorded, and the conditions of the atmosphere, planets, sun, &c., closely noted, so that the proper conclusions may be arrived at. In this Mr. Vennor is doing his share, and already the publication of his winter almanac has caused a wide-spread interest in the matter throughout the Dominion.

## ECLIPSES IN 1879.

During the year 1879 there will be three eclipses—two of the sun, and one of the moon.

The first will be an annular eclipse of the sun, on the 22nd of January; visible in South America, but not in Canada.

The second will also be an annular eclipse of the sun, on the 19th of July; not visible in Canada.

The third will be a partial eclipse of the moon, on the 28th of December; not visible in Canada.

**CHRONOLOGICAL CYCLES.**—Dominical Letter, E; Golden Number, 18; Jewish Lunar Cycle, 15; Epact or Moon's Age, 7; Solar Cycle, 12; Julian Period, 6592; Jewish Year, commencing 30th September, 5639; Roman Indications, 7; Mohammedan Year, 1396.

### MORNING AND EVENING STARS.

**VENUS** is an Evening Star until September 23rd, after that a Morning Star to the year's end. **MARS** is a Morning Star until November 12th, after that an Evening Star to the end of the year.

**JUPITER** is a Morning Star from the 8th of February to the 31st of August, and may be considered an Evening Star until February 8th, and from the 9th of June to the year's end. **SATURN** is a Morning Star from the 26th March to the 5th of October, and is an Evening Star from the 3rd of July to the end of the year.

### THE SEASONS OF THE YEAR 1879.      d. h. m.

Spring begins.....	March 20th	6 26	evening, lasting	92 20 9
Summer " .....	June 21st	2 35	" "	93 13 34
Autumn " .....	Sept. 23rd	5 9	morning "	89 18 9
Winter " .....	Dec. 21st	11 18	eve. tropical yr.	365 5 45

**MOVABLE FESTIVALS.**—Septuagesima Sunday, February 9th; Sexagesima Sunday, February 16th; Quinquagesima Sunday, February 23rd; Ash Wednesday, February 26th; First Sunday in Lent, March 2nd; Mid-Lent Sunday, March 23rd; Palm Sunday, April 6th; Good Friday, April 11th; Easter Sunday, April 13th; Low Sunday, April 20th; Rogation Sunday, May 18th; Ascension Day, May 22nd; Whitsunday, June 1st; Trinity Sunday, June 8th; Corpus Christi, June 12th; Advent Sunday, November 30th.

**HOLIDAYS OBSERVED IN PUBLIC OFFICES.**—Circumcision, January 1st; Epiphany, January 6th; Annunciation of the Virgin Mary, March 25th; Good Friday, April 11th; Ascension Day, May 22nd; Queen's Birthday, May 24th; Corpus Christi, June 12th; St. Peter and St. Paul, June 29th; All Saints Day, November 1st; Conception of the Blessed Virgin, December 8th; Christmas Day, December 25th.

**BANK HOLIDAYS IN ONTARIO.**—Sundays, Christmas Day, New Year's Day, Ash Wednesday, Good Friday, Easter Monday, The Queen's Birthday, and each day appointed by Royal Proclamation as a general Fast or Thanksgiving day.

Answers  
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Calendar  
Corona  
Diphtheria  
Drinks in  
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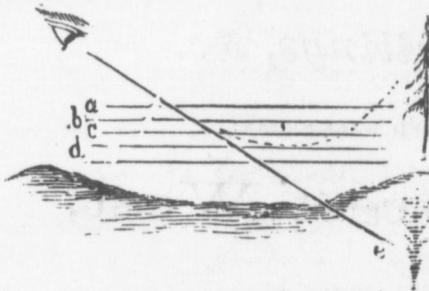
**MONTREAL.**

## MOON'S PHASES.

Full Moon.....	8th	6.54 mo.	New Moon.....	22nd	6.57 mo.
Third Quarter..	15th	6.08 mo.	First Quarter...	30th	6.50 mo.

## WEATHER PROVERBS AND OTHER PROVERBS.

1	WED	<b>CIRCUMCISION.</b>
2	THU	O, all ye works of the Lord, bless ye the Lord ; praise
3	FRI	him and magnify him forever.
4	SAT	O ye Heavens, bless ye the Lord ; praise him and magnify
5	Sun	<b>2nd Sunday after Christmas.</b> [him forever.
6	MON	<b>EPIPHANY—Twelfth Day.</b>
7	TUES	If the grass grows in Janiveer,
8	WED	It grows the worse for 't all the year,
9	THU	If Janiveer calends be summery gay,
10	FRI	'Twill be wintry weather till the calends of May.
11	SAT	
12	Sun	<b>1st Sunday after Epiphany.</b>
13	MON	
14	TUES	At Twelfth Day the days are lengthened a cock's stride.
15	WED	A field requireth three things : fair weather, good seed
16	THU	and a good husbandman.
17	FRI	He that is master of himself will soon be master of others.
18	SAT	He that is not above an injury is below himself.
19	Sun	<b>2nd Sunday after Epiphany.</b>
20	MON	He that is proud of fine clothes gets his reputation from
21	TUES	his tailor.
22	WED	He that is surety for another is never sure himself.
23	THU	He that hinders not a mischief when it is in his power is
24	FRI	guilty of it.
25	SAT	He that returns good for evil gaineth a victory.
26	Sun	<b>3rd Sunday after Epiphany.</b>
27	MON	He that preacheth up war when it might be avoided is the
28	TUES	devil's chaplain.
29	WED	He that speaks, sows ; he that hears, reaps.
30	THU	He that shows a passion tells his enemy where he may hit
31	FRI	him.



THE MIRAGE OF THE DESERT.

in the figure decrease in density from *a* to *d*, owing to the

THE MIRAGE.—There is a certain angle at which a ray of light, having passed through one medium, on coming to the surface of the one below will not pass into it, but will be totally reflected back into the first medium as from a mirror. This is called the critical angle. Different strata of air answer this purpose, and hence the mirage. Suppose the atmospheric strata

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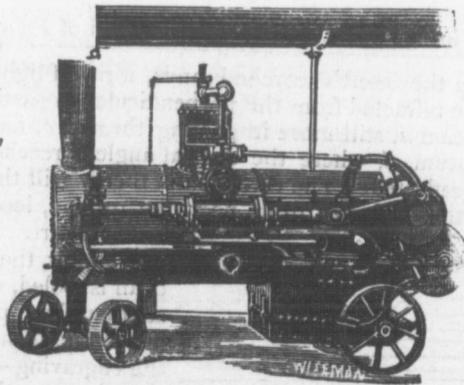
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## MOON'S PHASES.

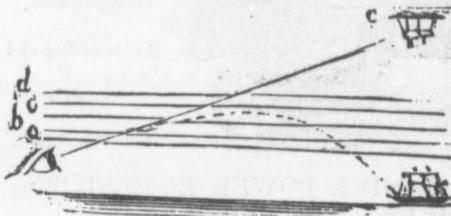
Full Moon.....	6th	8.48 ev.	New Moon.....	20th	11.09 ev.
Third Quarter..	13th	2.00 ev.			

## WEATHER PROVERBS AND OTHER PROVERBS.

1 SAT	O, ye waters that be above the Firmanent, bless ye the
2 <b>SUN</b>	<b>4th Sunday after Epiphany.</b>
3 MON	Lord : praise him and magnify him forever.
4 TUES	O, all ye powers of the land, bless ye the Lord : praise
5 WED	him and magnify him forever.
6 THU	February fell dike, be it black or be it white ;
7 FRI	But if it be white, it's the better to like.
8 SAT	All the months of the year Curse a fair Februveer.
9 <b>SUN</b>	<b>Septuagesima Sunday.</b>
10 MON	If the sun at rising appears enlarged, there will shortly be
11 TUES	sudden and sharp showers, if in summer ; but in winter settled
12 WED	and moderate weather. The enlarged appearance of the
13 THU	sun is the result of dense vapor in the air on the point of con-
14 FRI	densation. The different electrical condition of the atmos-
15 SAT	phere secures the contrary result in winter.— <i>Steinitz.</i>
16 <b>SUN</b>	<b>Sexagesima Sunday.</b>
17 MON	A clear sky and sun setting in a well-defined form with-
18 TUES	out dazzling the eye, and a deep, solemn calm, in winter is
19 WED	attended by the sharpest frost of the season ; in summer it
20 THU	foreshadows a hot and brilliant day.
21 FRI	
22 SAT	
23 <b>SUN</b>	<b>Quinquagesima Sunday.</b>
24 MON	The abuse of riches is worse than the want of them.
25 TUES	
26 <b>Wed</b>	<b>Ash Wednesday or 1st of Lent.</b>
27 THU	
28 FRI	Winter's back breaks about the end of February.

heat arising from the desert's scorched sands, a ray of light coming from the object will be refracted from the perpendicular in passing downward through the stratum *a*, still more in passing through *b*, and so on until it reaches a stratum, *d*, where the critical angle is reached and the ray becomes totally reflected. The direction of the ray will then be upward.

The sky, being thus reflected from near the ground, looks like a lake in the desert. In the mirage over water, the lower stratum of air is cooled, so as to be denser than the upper. The course of the rays is then as shown in the engraving—the reverse of the mirage on the desert. Vessels hidden by the curvature of the earth, will be reflected upside down in the air.



MIRAGE OVER WATER.

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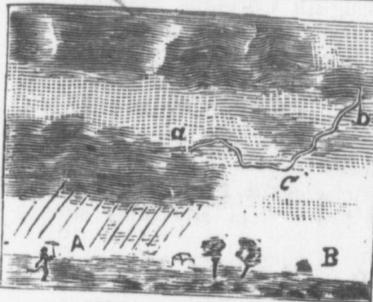
MARCH.

MOON'S PHASES.

Third Quarter..	1st	3.04 mo.	New Moon...	22nd	4.10 ev.
Full Moon.....	8th	8.15 mo.	First Quarter..	30th	8.11 ev.
Third Quarter..	14th	10.47 ev.			

WEATHER PROVERBS AND OTHER PROVERBS.

- 1 SAT O, ye sun and moon, bless ye the Lord : praise him and
- 2 Sun **First Sunday in Lent.**
- 3 MON magnify him forever.
- 4 TUES O, ye stars of heaven, bless ye the Lord : praise him
- 5 WED and magnify him forever.
- 6 THU March in Janiveer, Janiveer in March I fear.
- 7 FRI A bushel of March dust is worth a king's ransom.
- 8 SAT March grass never did good.
- 9 Sun **Second Sunday in Lent.**
- 10 MON A windy March and a rainy April make a good May.
- 11 TUES If thou must deal, be sure to deal with an honest man.
- 12 WED Though thou hast ever so many counsellors, yet do not
- 13 THU forsake the counsel of thy own soul.
- 14 FRI Do not dwell in a city whose governor is a physician.
- 15 SAT **Third Sunday in Lent.**
- 16 Sun The door that is not opened to him that begs our alms
- 17 MON will be opened to the physician.
- 18 TUES Thy secret is thy prisoner ; if thou let it go thou art a
- 19 WED prisoner to it.
- 20 THU **Fourth Sunday in Lent.**
- 21 FRI In my own city my name, in a strange city my clothes,
- 22 SAT procure me respect.
- 23 Sun Be not ungrateful to your old friend.
- 24 MON A March wisher is never a good fisher.
- 25 TUES
- 26 WED
- 27 THU
- 28 FRI
- 29 SAT
- 30 Sun **Fifth Sunday in Lent.**
- 31 MON



CAUSE OF THUNDER.

THUNDER.—Lightning, by its repulsive force upon the particles of air along its path, produces a space. Into this the air rushes with a violence proportionate to the intensity of the electricity. A separate sound is produced at each point along the line of the flash, and although simultaneous, they reach the ear of an observer in slow succession. An observer at A will first hear the sound from the concussion at a, next at c and finally at b.

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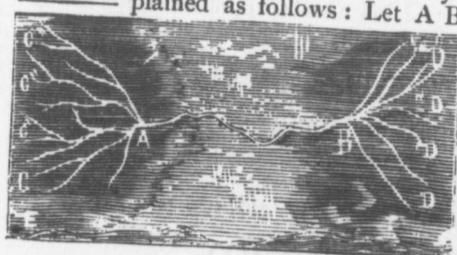
232 St. James St., Montreal.

MOON'S PHASES.

Full Moon.....	6th	5.30 ev.	New Moon.....	21st	9.01 mo.
Third Quarter..	13th	9.15 mo.	First Quarter...	30th	9.22 mo.

WEATHER PROVERBS AND OTHER PROVERBS.

- 1 TUES O, ye showers and dew, bless ye the Lord : praise him
- 2 WED and magnify him forever.
- 3 THU O, ye winds of God, bless ye the Lord : praise him and
- 4 FRI magnify him forever.
- 5 SAT April showers bring forth May flowers.
- 6 Sun **Sixth Sunday in Lent.**
- 7 MON April borrowed three days from March and they are ill.
- 8 TUES A cold April the barn will fill.
- 9 WED April and May are the keys of the year.
- 10 THU If mists rise in low ground and soon vanish, expect fair
- 11 FRI weather.
- 12 SAT
- 13 Sun **Easter Sunday.**
- 14 MON If mists rise to the hill-tops, expect rain in a day or two.
- 15 TUES Their not rising any higher or passing off in the shape of
- 16 WED clouds, shows that there is not sufficient solar heat for the
- 17 THU purpose, and they must soon condense into rain.
- 18 FRI A black mist indicates coming wet, because the blackness
- 19 SAT is owing to dense clouds which overshadow it, and such
- 20 Sun **Low Sunday.**
- 21 MON clouds will supply the wet.
- 22 TUES
- 23 WED Sudden rains never last long. But when the air grows
- 24 THU thick by degrees, and the sun, moon and stars shine dimmer
- 25 FRI and dimmer, then it is likely to rain six hours usually.
- 26 SAT
- 27 Sun **Second Sunday after Easter.**
- 28 MON
- 29 TUES
- 30 WED



ROLLING THUNDER.

would reach him, and he would hear a crashing noise which continues for several seconds with variable intensity. This is succeeded by a faint rumbling noise along B D in the distance.

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Use on  
FLOUR.

Office :

# CATARRH.

Hear what the Rev. W. TINDALL, says about LITTLEFIELD'S CONSTITUTIONAL CATARRH REMEDY.

## CERTIFICATE.

T. J. B. HARDING, ESQ., Brockville, Ont.:

I was afflicted in my head for years before I suspected it to be Catarrh. In reading in your circular I saw my case described in many particulars. The inward "drop" from the head had become very disagreeable, and a choking sensation often prevented me from lying long. I would feel like smothering, and be compelled to sit up in bed. When your agent came to Walkerton in August, 1876, I secured three bottles. Before I had used a quarter of the contents of one bottle I found decided relief, and when I had used two bottles and a third, I quit taking it, feeling quite cured of that ailment, and have not used any since, until of late I have taken some for a cold in my head.

Yours truly,

W. TINDALL, Methodist Minister,

PORT ELGIN, Ont., Aug. 24, 1878.

Ask for Littlefield's Constitutional Catarrh Remedy, and take no other. For sale by all druggists.

Send Stamp for treatise on Catarrh to T. J. B. HARDING, Dominion Agent, Brockville, Ont.

## BRODIE & HARVIE'S

# SELF-RAISING FLOUR

The Genuine Merits of this article, which gained for it A MEDAL and DIPLOMA at the U. S. CENTENNIAL EXHIBITION, Philadelphia, 1876, have again been recognized by the highest authority, it having been AWARDED A PRIZE MEDAL at the GREAT INTERNATIONAL EXHIBITION held this year at PARIS.

The Public are respectfully Cautioned against Inferior Imitations of this Flour now being offered.

Use only **BRODIE & HARVIE'S SELF-RAISING FLOUR.** Ask for it and take no other. All Grocers keep it.

Office: Corner **CRAIG and BLEURY STREETS,**  
MONTREAL.

## MOON'S PHASES.

Full Moon.....	6th	1.18 mo.	New Moon...	21st	0.56 mo.
Third Quarter...	12th	9.42 ev.	First Quarter..	28th	6.42 ev.

## WEATHER PROVERBS AND OTHER PROVERBS.

1	THU	O, ye fire and heat, bless ye the Lord : praise him and magnify him forever.
2	FRI	
3	SAT	O, ye winter and summer, bless ye the Lord : praise him and magnify him forever.
4	<b>Sun</b>	<b>Third Sunday after Easter.</b>
5	MON	
6	TUES	Shear your sheep in May and shear them all away.
7	WED	
8	THU	A swarm of bees in May is worth a load of hay ;
9	FRI	But a swarm in July is not worth a fly.
10	SAT	
11	<b>Sun</b>	<b>Fourth Sunday after Easter.</b>
12	MON	A yellow sunset indicates wet. The vapor of the air being condensed into clouds, presents more resistance to the rays of the light, and so the most refracted rays, the yellow, are bent to the eye. The vapors of the air are therefore in a fit condition to descend as rain, which must be soon expected.
13	TUES	
14	WED	
15	THU	
16	FRI	
17	SAT	
18	<b>Sun</b>	<b>Rogation Sunday.</b>
19	MON	
20	TUES	Three successive mornings of hoar-frost in the autumn and spring are generally followed by continued rain. This is owing to the cooling when the air is saturated with moisture.
21	WED	
22	THU	
23	FRI	
24	SAT	
25	<b>Sun</b>	<b>Sunday after Ascension.</b>
26	MON	
27	TUES	A cold May and windy makes a barn full and a findy.
28	WED	A May flood never did good.
29	THU	
30	FRI	April and May are the key of all the year.
31	SAT	



"SUN'S DRAWING WATER."

When the sky is somewhat hazy, the shadows of clouds can be distinctly traced in the sky by dark lines proceeding from the sun. Such a haze most frequently prevails near the horizon, and hence these shadows are most noticeable in that quarter of the heavens which is below the sun. This effect is of common occurrence in summer, and is known as "the sun's drawing water." Occasionally we notice these shadows diverging in every direction from the sun, not only downward, but also laterally and even upward.



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BERARD & MAJOR,  

*Carriage Manufacturers,*  
 Manufacturers of the JUMPER SLEIGE,  
 1039 ST. CATHERINE STREET,  
 MONTREAL.

By their long experience in first-class manufactures in New York, MM. BERARD & MAJOR can execute all kind of work in French, English or American Style.  
 N. B.—All Repairs done on the shortest notice at reduced prices.

W. & R. BRODIE,  
 General Commission Merchants,  
 AND DEALERS IN  
*Flour, Produce and Provisions,*  
 5 Arthur Street,  
 Next Bank of Montreal, QUEBEC.

## IMPERIAL EGG FOOD



Trade Mark Patented February 24, 1875.

*Will Make Your Hens Lay.*

Our preparation has been extensively used in the States for years, and is endorsed and recommended by the most eminent authorities in the country, among whom we name the American Agriculturist, Poultry World, Geo. P. Burnham and J. R. Pelech. We claim for it and have thousands of testimonials to the facts that it will **Greatly Increase Egg Production and Permanently Benefit all Varieties of Fowls.**

Especially during the **Moulting Season**, and for **Young Chicks** and **Turkeys**, it is invaluable.

Breeders will find its certain results to be **Glossy Plumage, Splendid Carriage and Rugged Constitution.**

Pound Boxes, 50 cts.; 2½ lb. boxes, \$1.; 6 lb. boxes, \$2; 25 lb. kegs, \$6.25.

### GEORGE WAIT,

*Produce Merchant,*

2 and 4 Young's Buildings, McGill Street, Montreal,

*General Agent for Canada.*

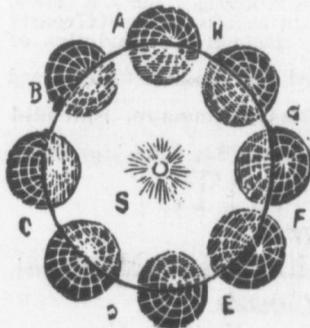
CHAS. R. ALLEN & CO., Proprietors, Hartford, Conn.

## MOON'S PHASES.

Full Moon. . . .	4th	8.42 mo.	New Moon. . . .	19th	3.25 ev.
Third Quarter. .	11th	0.02 ev.	First Quarter. . .	27th	1.02 mo.

## WEATHER PROVERBS AND OTHER PROVERBS.

1	Sun	<b>Whit Sunday.</b>
2	MON	O, ye light and darkness, bless ye the Lord : praise him
3	TUES	and magnify him forever.
4	WED	O, ye lightnings and clouds, bless ye the Lord : praise
5	THU	him and magnify him forever.
6	FRI	Cold weather in June sets corn in tune.
7	SAT	
8	Sun	<b>Trinity Sunday.</b>
9	MON	After very warm and calm weather a squall or storm, with
10	TUES	rain, may follow ; likewise at any time when the atmosphere
11	WED	is heated much above the usual temperature of the season,
12	THU	and when there is, or recently has been, much electric or
13	FRI	magnetic disturbance in the atmosphere.
14	SAT	
15	Sun	<b>1st Sunday after Trinity.</b>
16	MON	A thunderstorm may be expected under the following cir-
17	TUES	cumstances :—The appearance of regular thunder-clouds
18	WED	( <i>cirro-strati</i> ) ; a driving fog and small rain ; snow or brisk
19	THU	hail ; a shower on a hot day ; hot weather after wet (rarely) ;
20	FRI	wet weather after dry. The last mentioned is a common
21	SAT	
22	Sun	<b>2nd Sunday after Trinity.</b>
23	MON	cause, because dry air is a non-conductor of electricity, and
24	TUES	thus accumulates the electricity until it is discharged by the
25	WED	clouds in a thunderstorm. A thunderstorm rarely follows
26	THU	wet weather, because the rain has brought down the electricity
27	FRI	gradually and quietly to the ground.
28	SAT	
29	Sun	<b>3rd Sunday after Trinity. St. Peter's.</b>
30	MON	



THE SEASONS.—Let S represent the sun, around which the earth circles once a year. As the earth travels it inclines itself so that at periods the northern hemisphere is nearer the sun and receives more of its light and heat than at others. When the northern hemisphere inclines *from* the sun there is winter in the north and summer in the south. The earth at A has nights and days of equal length ; at B it is summer in the north ; at C the days are of equal length again ; at F the north pole is in the shadow—winter in Canada.



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"Send for our Annual Illustrated Circular."



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FIRST PRIZES  
AWARDED, AND  
10,000  
OF THOSE RAKES SOLD  
IN FIVE YEARS.

Manufactured only by

G. M. COSSITT & BRO.,

Manufacturers of the Buckeye Mower, Ithaca Horse Rake,  
Single and Combined Reapers, Sawing Machines,  
Shingle Machines, 2, 4, 6, 8 and 10 Horse Power,  
Threshing Machines, &c., &c.

Manufactory and Principal Office, BROCKVILLE, Ont.  
Branch, 81 MCGILL STREET, Montreal,

R. J. LATIMER, *Manager.*

## J. G. PARKS, PHOTOGRAPHER

AND PUBLISHER OF

STEREOSCOPIC AND OTHER VIEWS,  
LANTERN SLIDES, &c.

Mr. Parks has the old negatives taken by Mr. Inglis on St. James Street. Photographs furnished from the same.

Mr. Parks has a large assortment of Stereoscopic and large Photographic Views, Lantern Slides, &c. Liberal discount to the trade.

Catalogue sent free.

Give him a call if you need something in the photographic line.

Mr. Parks holds a number of First Prizes awarded at various Exhibitions.

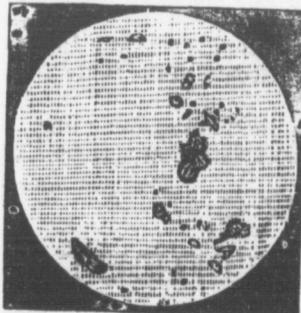
J. G. PARKS,  
195½ ST. JAMES STREET,  
MONTREAL.

## MOON'S PHASES.

Full Moon.....	3rd	4.44 ev.	New Moon.....	19th	4.12 mo.
Third Quarter..	11th	4.00 mo.	First Quarter...	26th	5.42 mo.

## WEATHER PROVERBS AND OTHER PROVERBS.

1 TUES	O, let the earth bless the Lord; yea, let it praise him and magnify him forever.
2 WED	O, ye mountains and hills, bless ye the Lord; praise him and magnify him forever.
3 THU	No tempest, good July, best corn come off blue by.
4 FRI	<b>4th Sunday after Trinity.</b>
5 SAT	This rule in gardening never forget:
6 Sun	To sow dry and set wet.
7 MON	Think no labor slavery
8 TUES	That brings in a penny savory.
9 WED	The lower mill-stone grinds as well as the upper.
10 THU	<b>5th Sunday after Trinity.</b>
11 FRI	Good luck comes by cuffing.
12 SAT	If I had revenged all wrong, I had not worn my skirts so long.
13 Sun	A word and a stone let go cannot be recalled.
14 MON	A man's folly is his worst foe and his discretion is his best friend.
15 TUES	<b>6th Sunday after Trinity.</b>
16 WED	A man that breaks his word bids others be false to him.
17 THU	A man without ceremony hath need of great merit in its place.
18 FRI	Actions measured by time seldom prove better by repentance.
19 SAT	<b>7th Sunday after Trinity.</b>
20 Sun	An injury forgiven is better than an injury revenged.
21 MON	An obedient wife commands her husband.
22 TUES	Apes are never more beasts than when they wear men's clothes.
23 WED	
24 THU	
25 FRI	
26 SAT	
27 Sun	
28 MON	
29 TUES	
30 WED	
31 THU	



SUN SPOTS. SEPT. 25, '70.

SUN SPOTS.—The astronomer Schwabe, of Dessau, after a continued observation of the sun spots for forty-six years, comes to the conclusion that the spots wax and wane in frequency in a period of about eleven years; at the time of the spot-minimum the sun remains for several days not only without any spots, but with a singularly smoothness of aspect. From such an epoch there is a gradual return to the maximum of spot-frequency, then there is a more gradual reduction until the spot-minimum is reached.

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Messrs. CHAR  
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Last May  
my chickens,  
*Imperial Egg*  
the strangest  
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## DEATH TO RATS, MICE, AND ALL VERMIN.

GOULDEN'S RAT POISON is certain death or banishment to all rats, mice, cockroaches and all kinds of vermin. One box sufficient for 100 rats.

## NEURALGIA! NEURALGIA!

Neuralgine is a safe and certain cure for Neuralgia, giving quick and permanent relief; is also a good tonic for improving weak digestion.

**J. GOULDEN,**  
175 St. Lawrence Street, Montreal.



Trade Mark Patented February 24, 1875.

## STRANGE, BUT TRUE.

KINGSTON, N. J., October 1, 1878.

Messrs. CHARLES R. ALLEN & Co., Hartford, Conn.

GENIS: Your favor asking me if I would make affidavit to the facts set forth in the letter I wrote you a few days ago, came to hand, and I herewith enclose my sworn statement.

Last May I went to Mr. Van Dryn's store, in this place, to get some powders for my chickens, which were dying off, and he induced me to try a package of your *Imperial Egg Food*. I took it home and fed to my chicks with very good effect, but the strangest part of the story I have yet to relate. I have an old black hen which I brought with me when I moved here in April, 1868. She was then a pullet, having been hatched the June previous, 1867, consequently is now nearly 12 years old, almost blind, and crippled, having lost the use of one foot. She had been sick some time, and was around under foot; but being an old family pet I did not want to kill her, and thinking the *Egg Food* might help her, I put her upon the grass in the back yard and mixed it in her feed a few days, and she soon began to pick up, her comb turned red, she commenced to sing and cackle, and shortly to lay, and has laid *twenty-five eggs* this season.

Her new feathers have come out black and glossy, and she looks remarkably well, though crippled and almost blind.

SARAH LEONARD.

STATE OF NEW JERSEY, Middlesex County, SS.

Personally appeared Sarah Leonard, and upon her oath saith the above statement is true and correct.

Sworn and subscribed before me this first day of October, A. D. 1878.

CHAS. L. STOUT, *Justice of the Peace.*

(See advertisement page 17.)

## Phosphate Mining Lands for Sale.

Lots 10 and 11 in the 3rd Range of Wakefield (400 acres) and properties in Hull. Adjoining lots in third Range of Wakefield are being mined this year and is turning out very richly.

For particulars, address

**GEORGE H. FLINT,**

No. 57 LATOUR STREET, Montreal.

MOON'S PHASES.

Full Moon.....	2nd	2.18 mo.	First Quarter.	24th	10.18 mo.
Third Quarter...	9th	9.15 ev.	Full Moon...	31st	2.04 ev.
New Moon.....	17th	3.16 ev.			

WEATHER PROVERBS AND OTHER PROVERBS.

- 1 FRI O, all ye green things upon the earth, bless ye the Lord :
- 2 SAT praise him and magnify him forever.
- 3 Sun **8th Sunday after Trinity.**
- 4 MON O, ye wells, bless ye the Lord : praise him and magnify
- 5 TUES him forever.
- 6 WED Dry August and warm doth harvest no harm.
- 7 THU Snow can never fall when the temperature is low, because
- 8 FRI it arises from the contact of two currents whose temperature
- 9 SAT is different.
- 10 Sun **9th Sunday after Trinity.**
- 11 MON It certainly snows sometimes when the cold is intense ;
- 12 TUES but in this case it does not take the form of flakes, but rather
- 13 WED of small spikes of ice, which owe their origin to a stratum of
- 14 THU clouds belonging to a warmer current, lying at a great height
- 15 FRI in the atmosphere. These spikes or needles passing through
- 16 SAT very dry air cannot increase in size, and hence cannot assume
- 17 Sun **10th Sunday after Trinity.**
- 18 MON the form of flakes.
- 19 TUES When rain is coming, ravens caw, swallows chatter, cats
- 20 WED "wash their faces," small birds plume themselves and make
- 21 THU a show of washing, crows make a great noise in the evening,
- 22 FRI geese cackle more than usual. The reason is that these crea-
- 23 SAT tures love wet weather and rejoice at its approach.
- 24 Sun **11th Sunday after Trinity.**
- 25 MON Sheep huddle together at the approach of bad weather,
- 26 TUES and turn their tails towards its direction. Dogs and cats feel
- 27 WED lazy at the approach of rain. The reason is because the air
- 28 THU is deficient in oxygen, and the damp depresses the nervous
- 29 FRI system.
- 30 SAT
- 31 Sun **12th Sunday after Trinity.**



SUN SPOT AS SEEN IN 1870.

SUN SPOTS.—Prof. Loomis, after careful examination, concludes that the black spot on the sun is the result of the disturbance of the sun's surface, which is accompanied by an emanation of some influence from the sun, which is almost instantly felt upon the earth in an unusual disturbance of the earth's magnetism and a flow of electricity, developing the auroral light in the upper region of the earth's atmosphere. The appearances favor the idea that this emanation consists of a direct flow of electricity from the sun.

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PLOWES, &c.

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**FROST & WOOD,**

Smith's Falls, Ont.



The No. 8 Plow.

Manufacturers of MOWERS and REAPERS, HORSE HAY RAKES, THRESHING MACHINES, PLOUGHS, &c., &c., and all descriptions of FARMING IMPLEMENTS. Send for Price List. THOUSANDS OF THE ABOVE PLOW IN USE.

LARMONTH & SONS, Agents, 33 College Street, Montreal.

**IRA GOULD & SONS,**

**MILLERS,**

Manufacturers of the Celebrated Brands of

*"Gould's City Mills" Flour,*

MONTREAL.

**J. H. WALKER,**

DESIGNER

AND

ENGRAVER ON WOOD,



13 Place d'Armes Hill,

NEAR CRAIG STREET.

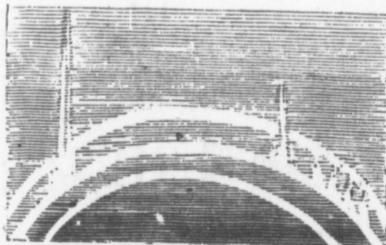
(Established 1850.)

## MOON'S PHASES.

Third Quarter...	8th	3.10 ev.	First Quarter..	22nd	4.26 ev.
New Moon.....	16th	1.03 mo.	Full Moon....	30th	4.23 mo.

## WEATHER PROVERBS AND OTHER PROVERBS.

1	MON	O, ye seas and floods, bless ye the Lord : praise him and magnify him forever.
2	TUES	
3	WED	O, ye whales and all that move in the waters, bless ye the Lord : praise him and magnify him forever.
4	THU	
5	FRI	
6	SAT	Halos, cornæ, etc., presage approaching rain or snow.
7	Sun	<b>13th Sunday after Trinity.</b>
8	MON	A considerable and rapid depression of the barometer—
9	TUES	for instance, a fall of three-fourths of an inch in twenty-four
10	WED	hours—indicates an approaching storm, with snow or rain.
11	THU	The wind will be from the northward if the thermometer is
12	FRI	low for the season ; from the southward if the thermometer
13	SAT	is high. If the barometer falls with a rising thermometer
14	Sun	<b>14th Sunday after Trinity.</b>
15	MON	and increased dampness, wind and rain may be expected from
16	TUES	the southward.
17	WED	A rapid rise of the barometer indicates unsettled weather ;
18	THU	a slow rise indicates fair weather. The result of all rapid
19	FRI	changes in the weather, or in any of the instrumental indica-
20	SAT	tors, is brief in duration, while that of a gradual change is
21	Sun	<b>15th Sunday after Trinity.</b>
22	MON	more durable.
23	TUES	It is generally believed that the storm derives its advanc-
24	WED	ing force from the wind, but this is not so ; the direction of
25	THU	the wind at any place being entirely distinct from that of the
26	FRI	storm's progress over the earth's surface. For instance, while
27	SAT	the storm advances slowly eastward, the wind has every pos-
28	Sun	<b>16th Sunday after Trinity.</b>
29	MON	sible direction at different places within the limits of the
30	TUES	storm.—Loomis.



AURORAL ARCH.

this agent also is the result in the vibrations of the same medium, or at least that it is a force capable of being propagated through the ether with

AURORAS.—Prof. Loomis says that "appearances form the idea that the emanation from the sun at the period of sun spots consists of a direct flow of electricity. If we maintain that light and heat are the result of vibrations of rare ether which fills all space, the analogy between these agencies and electricity would lead us to conclude that

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# THE ST. LOUIS HOTEL,



ST. LOUIS STREET, QUEBEC.

WILLIS RUSSELL,                      THE RUSSELL HOTEL COMPANY,  
*President.*    *Proprietors.*

LANGLOIS, ANGERS, LARUE & ANGERS,

*Barristers, &c.,*

105, FOOT OF MOUNTAIN HILL,  
QUEBEC.

J. LANGLOIS, Q. C. — A. R. ANGERS, Q. C. — J. E. LARUE; — O. P. ANGERS.

WURTELE & LORTIE,

*Assignees, Accountants and Financial Agents,*

*51 Richelieu Block, Dalhousie Street,*

QUEBEC.

R. H. WURTELE,  
*Official Assignee.*                      B

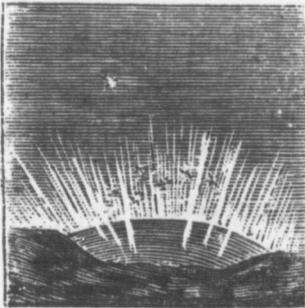
D. LORTIE,  
*Public Accountant.*

MOON'S PHASES.

Third Quarter..	8th	8.49 mo.	First Quarter..	22nd	1.25 mo.
New Moon.....	15th	10.15 ev.	Full Moon. . .	29th	9.15 ev.

WEATHER PROVERBS AND OTHER PROVERBS.

1	WED	O, all ye fowls of the air, bless ye the Lord : praise him and magnify him forever.
2	THU	O, all ye beasts and cattle, bless ye the Lord : praise him and magnify him forever.
3	FRI	O, all ye beasts and cattle, bless ye the Lord : praise him and magnify him forever.
4	SAT	O, all ye beasts and cattle, bless ye the Lord : praise him and magnify him forever.
5	Sun	<b>17th Sunday after Trinity.</b>
6	MON	O, ye children of men, bless ye the Lord : praise him and magnify his name forever.
7	TUES	O, ye children of men, bless ye the Lord : praise him and magnify his name forever.
8	WED	O, ye children of men, bless ye the Lord : praise him and magnify his name forever.
9	THU	Good October, a good blast, To blow the hog acorn and mast.
10	FRI	Good October, a good blast, To blow the hog acorn and mast.
11	SAT	An ague in spring is physic for the king.
12	Sun	<b>18th Sunday after Trinity.</b>
13	MON	A bit in the morning is better than nothing all day.
14	TUES	A bit in the morning is better than nothing all day.
15	WED	Those who would be young when they are old must be old when they are young.
16	THU	Those who would be young when they are old must be old when they are young.
17	FRI	Those who would be young when they are old must be old when they are young.
18	SAT	After dinner sit a while ; after supper walk a mile.
19	Sun	<b>19th Sunday after Trinity.</b>
20	MON	After dinner sit a while ; after supper walk a mile.
21	TUES	After dinner sit a while ; after supper walk a mile.
22	WED	He that goes to bed thirsty rises healthy.
23	THU	An hour's sleep before midnight is worth two hours after.
24	FRI	The best physicians are Dr. Diet, Dr. Quiet, and Dr. Merryman.
25	SAT	The best physicians are Dr. Diet, Dr. Quiet, and Dr. Merryman.
26	Sun	<b>20th Sunday after Trinity.</b>
27	MON	Feed sparingly and defy the physician.
28	TUES	Feed sparingly and defy the physician.
29	WED	The foot of the owner is the best manure for the land.
30	THU	The foot of the owner is the best manure for the land.
31	FRI	Take a vine of a good soil, and the daughter of a good mother.



THE CORONA.

a velocity similar to that of light. While this influence is travelling through the void celestial spaces it develops no light ; but as soon as it encounters the earth's atmosphere—which appears to extend to the height of about 500 miles—it develops light, and its movements are controlled by the earth's magnetic force. Luminous beams sometimes shoot up simultaneously from nearly every part of the horizon, and converge to a point a little south of the zenith, forming a quivering canopy of flame, which is called the corona.

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Agent for  
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# COMMERCIAL UNION *Assurance Company.*

HEAD OFFICE, - - - 19 AND 20 CORNHILL, LONDON.

Capital, - - - \$12,500,000.

FUNDS IN HAND AND INVESTED, - \$7,750,000.  
UNCALLED CAPITAL, - - - - - 11,250,000.

### FIRE DEPARTMENT.

Insurance granted upon Dwelling Houses and Mercantile Risks, including Mills and Manufactories and their contents, at reasonable rates.

### LIFE DEPARTMENT.

Terms liberal—rates moderate—security perfect—bonuses large, having heretofore averaged over 25 per cent. of the premiums paid.

FRED. COLE,

Agent for Eastern Canada,  
43 St. Francois Xavier St.,  
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WESTMACOTT & WICKENS,

Agents for Western Canada,  
32 Wellington St.,  
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## G. ARMSTRONG & CO.,

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*Agents in Canada for Fisk's Patent Metallic  
Burial Cases and Caskets.*

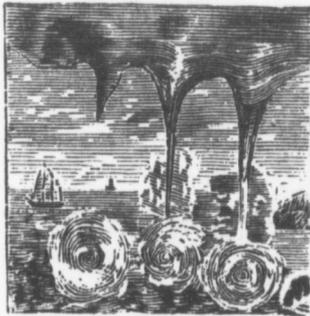
## NOVEMBER.

## MOON'S PHASES.

Third Quarter... | 7th | 1.1 mo. || First Quarter... | 20th | 1.55 mo.  
 New Moon..... | 13th | 7.45 ev. || Full Moon..... | 28th | 4.03 ev.

## WEATHER PROVERBS AND OTHER PROVERBS.

1	SAT	O, ye dews and frosts, bless ye the Lord : praise him
2	<b>Sun</b>	<b>21st Sunday after Trinity.</b>
3	MON	and magni y him forever.
4	TUES	
5	WED	O, ye frost and cold, bless ye the Lord : praise him and
6	THU	magnify him forever.
7	FRI	The absent are always at fault.
8	SAT	
9	<b>Sun</b>	<b>22nd Sunday after Trinity.</b>
10	MON	No alchymy like saving.
11	TUES	The charitable give out at the door and God puts in at the
12	WED	window.
13	THU	Keep good men's company and you shall be one of the
14	FRI	number.
15	SAT	
16	<b>Sun</b>	<b>23rd Sunday after Trinity.</b>
17	MON	To a crazy ship all winds are contrary.
18	TUES	When a dog is drowning everyone offers him water.
19	WED	Dry bread at home is better than roast meat abroad.
20	THU	Of all crafts, to be an honest man is the best craft.
21	FRI	Use the means and God will give the blessing.
22	SAT	
23	<b>Sun</b>	<b>24th Sunday after Trinity.</b>
24	MON	When in winter or spring, during rough, sleety and rainy
25	TUES	weather, you hear the fire cracking and feel it throwing out
26	WED	more heat, the weather will probably soon clear up, with frost
27	THU	or frosty air. The denser the air the better the fire burns.
28	FRI	This sign holds good in all seasons.
29	SAT	
30	<b>Sun</b>	<b>Advent Sunday. St. Andrew's Day.</b>



WATER-SPOUT.

**WATER-SPOUTS.**—When a violent whirl is formed over water, considerable spray is raised from the surface of the water, and this spray is carried up in the centre of the whirl, presenting the appearance of a dense solid column. This phenomenon is called a water-spout. Water-spouts sometimes attain a diameter of several rods and a height of half a mile. The figure shows a spout in three stages of its progress—the column incomplete, entire and breaking up.

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# TEES & CO.,

MANUFACTURERS OF

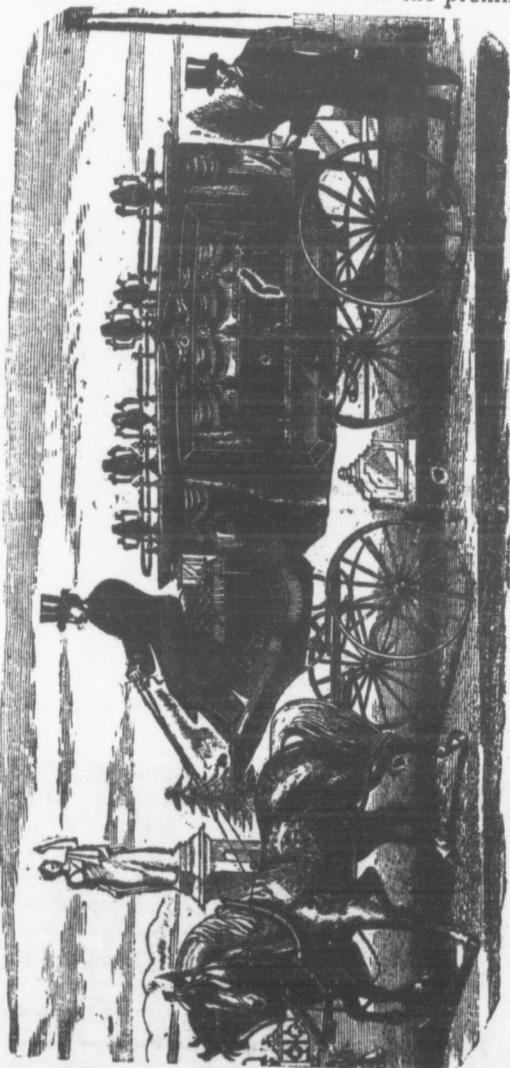
## *Metallic and Wood Caskets,*

AND

## *FURNISHING UNDERTAKERS,*

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(Residence on the premises.)



*The only Metallic Caskets manufactured in Canada.*

PRICES FURNISHED THE TRADE ON APPLICATION.

*Day or Night Telegrams Instantly Attended to.*

MOON'S PHASES.

Third Quarter.. | 6th | 2.49 ev. | First Quarter.. | 20th | 6.21 mo.  
 New Moon..... | 13th | 6.10 mo. | Full Moon.... | 28th | 11.21 ev.

WEATHER PROVERBS AND OTHER PROVERBS.

1 MON  
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 30 TUES  
 31 WED

O, ye ice and snow, bless ye the Lord : praise him and magnify him forever.

O, ye nights and days, bless ye the Lord : praise him and magnify him forever.

2nd Sunday in Advent.

One eye of the master sees more than four of the servants.  
 He that pitieth another remembereth himself.  
 He that oweth is always in the wrong.  
 The table robs more than the thief.  
 When it thunders the thief becomes honest.

3rd Sunday in Advent.

He who scatters thorns let him not go barefoot.  
 For want of a nail the shoe is lost ; for want of a shoe the horse is lost ; for want of a horse the rider is lost.  
 Good words without deeds are rushes and reeds.

4th Sunday in Advent. St. Thomas.

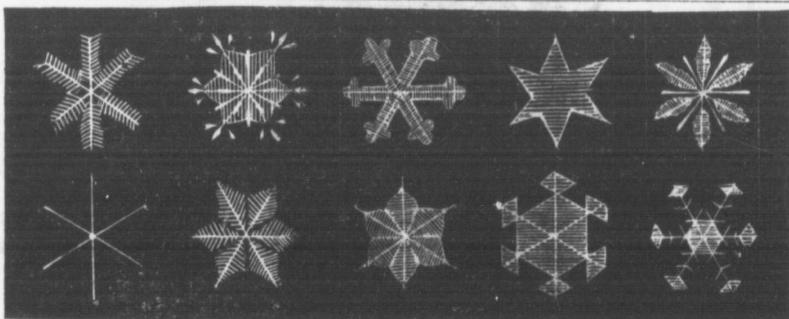
A good winter brings a good summer.  
 Humility often gains more than pride.

Christmas Day.

He that eats till he is sick must fast till he is well.

1st Sunday after Christmas.

"Years know more than books." May you learn much from this one.



CRYSTALLINE STRUCTURE OF SNOW-FLAKES.

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22, 24 & 26 ELGIN STREET,  
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MANUFACT  
 Importers of G  
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MACLEAN, ROGER & CO.,  
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OF THE  
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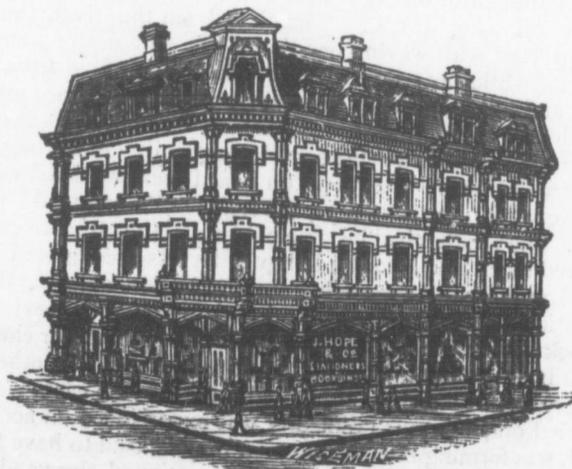
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45 & 47 SPARKS STREET,



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MANUFACTURING STATIONERS, General Bookbinders, and Engravers,  
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Importers of General Stationery, Artists' Materials, School Books, Bibles, Church  
Services, Prayer Books, Photographic Albums, &c.  
Particular attention given to the Manufacture of Blank Books of the Best Material  
and Workmanship. Bookbinding and Paper Ruling in all their branches executed in  
the best manner and with dispatch.

## THE YEAR 1878 REVIEWED.

### JANUARY.

The winter of 1877-78, according to the statements of the "oldest inhabitant," was one of the most remarkable on record; and with its great and sudden changes in temperature and weather, fully corroborated Mr. Vennor's prognostications, which appeared in his *Almanac* some months previous, he at that time stated that "I do not look for any very prolonged or heavy snowfalls during the month of January. Snow sufficient for sleighing will in all probability fall on or close to the 5th; from which date the ground will remain covered to a greater or less extent. The line of temperature for the month will be exceedingly zigzag—i.e., the changes will be frequent and abrupt from rain to snow and from milder to colder weather." By reference to the record for January, 1878, it will be seen that this forecast of the weather turned out to be wonderfully correct. The "green" Christmas, "dusty" streets on New Year's Day, with the river open and a mid-winter boat excursion, all came in order as indicated.

Altogether the peculiar and remarkable weather of 1877-78 places that season beyond its predecessors as being in all respects the most remarkable on record. The year 1878, unlike that of 1877, opened without snow. This, in itself, was a most unusual occurrence, as generally we have several feet of snow and excellent sleighing, and the river is frozen over. On the contrary, at the opening of 1878, there was no snow on the ground, and the river comparatively free from ice, so little indeed that the almost unknown event of an excursion down the river was indulged in on New Year's Day. The *Gazette* describes the trip in the following words: "Passing down the river, the boat was cordially greeted with waving handkerchiefs and dipping ensigns from either shore, while near Boucherville salutes were fired from revolvers, shot-guns and all manner of explosives, while cheers not unfrequently rent the air in greeting the strange visitors." There was also an excursion down the river on the steamer "Longueuil." A landing was made at Boucherville, where the party on board were received with honors. Ten minutes after, the report says, the steamer "Longueuil" was headed for home. The weather had become colder and the pleasure excursionists encountered much ice. Nearing Longueuil it was encountered in immense fields, and on shore there were thousands of skaters enjoying the sport on the glare ice. \* \* \* The Island ferry wharf was reached at about five o'clock. Here the party disembarked, and cheer after cheer rent the air as the boat returned from her trip to Longueuil. In other parts of the country excursions were attempted, and in some cases were successfully carried out, but much difficulty was experienced on account of the ice which was forming fast. Navigation may be said to have fully closed on New Year's Day. The weather still continued clear and cold until on the 4th, when snow fell all over the country and there was the first good sleighing of the season. From all quarters reports were received of the heavy snow storms, and trains were delayed in all directions. Heavy snow prevailed at New York and through some of the Southern

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States. At Washington a fall of twelve inches of snow was reported. No snow fell at Toronto, but there was a good fall at Hamilton. At Ottawa snow also fell heavily, and the lumbermen seized this opportunity to despatch teams laden with supplies for the half-starved men on the Gatineau depots. There was deep snow at Quebec, Halifax, N. S., St. John, N. B., and at numerous other points. In Prince Edward Island, the storm was unusually severe. After this "reminder" of the good old times, a decidedly cold dip was experienced. The thermometer in Montreal on the 7th registered 19° below zero. This cold snap seems to have prevailed generally all over the country. At Ottawa and Quebec very low readings of the thermometer were reported on the 7th. During the night the thermometer went down 30° below zero. At 8 o'clock next morning (8th), it was 20° below, and at noon, 10°. Quebec, 7th January: "On St. Foy Road, this morning, the thermometer registered 24° below zero." In New Brunswick the cold snap also prevailed. At Hampton the thermometer registered 20° below zero; at Rothesay, 17° below, and in the suburbs of St. John, 12°.

As predicted by Mr. Vennor, the month ended with a very small amount of snow over the greater part of the Dominion, very little having fallen since the 4th; in several places in Ontario wheeled vehicles were still in use. The river at Montreal, at the close of the month, had just closed, and the roads across it were being completed. Travel from one side to the other had been for some time *via* the Victoria Bridge. Altogether the month was a fairly cold one, there having been some four distinct "cold dips." These, however, were separated from one another by intervals of slush, rain and mild weather. A candid correspondent from L'Orignal, under date of Jan. 12th, states that "The weather prophet, Mr. Vennor, has immortalized himself by his truthful predictions of the present season. No snow till after New Year's; a fall of snow about the 5th; a severe cold snap and then rain, have all been realized to the letter." The *Almonte Gazette* of January 18th states that "Mr. Vennor's predictions with regard to the weather, when he says the thermometer in January will be exceedingly zig-zag, have been fulfilled with a vengeance. Monday evening the mercury being 28° below zero, and rain pouring down on Thursday evening."

\*RECORD AT MONTREAL.

(One of the most remarkable January's on record.)

	Min. Temp.
1 Bright, cold morning; no snow; very little ice in river; evening milder—excursion on river.....	
2 Thin covering of snow and light flurries all day; very cold; more ice in river.....	-2° 0'
3 Brilliant, cold day (about zero); roads bare; 5° below zero last night.....	-5° 5'
4 Snowing over the whole country; first sleighing of the season.....	-4° 8'
5 Stormy, and drifting, with high wind; 2 feet of snow in Quebec; cold night.....	-8° 5'

6	Bright, keen morning. 15° below zero during night ; cold steady.....	-15° 6'
7	Brilliant and cold day. River closing up fast ; still below zero ; plenty of snow.....	-12° 0'
8	Still below zero ; moisture in air ; low readings of thermometer at Ottawa and Quebec.....	-17° 8'
9	Light fall of snow last night ; cold moderating ; fair day ; thawing in sun.....	-2° 8'
10	Rain all day, evening and night ; very sudden rise in temperature.....	+18° 3'
11	Rain and sleet ; snow disappearing : mud in Toronto ; snow flurries.....	+3° 6'
12	Bright, spring-like day ; great break up ; canoe crossed river with provisions.....	+32° 5'
13	Froze hard during night ; dark cloudy day ; snow nearly all gone.....	+29° 8'
14	Mild weather, with snow, sleet and rain ; foggy, wet night ; light snows East and West.....	
15	Mild day, with snow flurries ; waters opening again. Temperature falling.....	+9° 0'
16	Bright, cold morning ; 5° below zero during night ; second cold snap of month.....	-6° 3'
17	Bright, cold day ; keen wind.....	-6° 5'
18	Moderate, spring-like day ; crossing river at Longueuil ; hardly any snow.....	-0° 7'
19	Spring-like day ; river opening again and crossing abandoned.....	+17° 0'
20	Warm and spring-like ; complete break-up ; tremendous slush.....	+31° 5'
21	Foggy and slushy warm day ; thick misty evening and wet night.....	+33°
22	Dark, slushy day ; river all open again ; streets bare. Stormy evening and night.....	+31° 2'
23	Sudden cold dip, with snow fall last night ; cold and windy night.....	-7° 5'
24	7° below zero last night ; bright, cold day ; no thaw. Crossing again at Longueuil.....	-9° 5'
25	Mild, overcast day ; wet snow at night.....	+2° 3'
26	Snowing more or less all day without much snow on ground ; open water still in front of city.....	+12° 9'
27	Mild, overcast day : great slush.....	+19° 0'
28	Sudden dip of temperature during last night ; cold morning with keen wind.....	-0° 10'
29	Bright, cold day ; very little snow through the country.	-6° 5'
30	Brilliant, cold winter day ; third day of cold ; making road from city to Longueuil.....	-3° 5'
31	Cold morning, moderating rapidly during day, with increasing cloud ; ice bridge firmly taken at last. Windy night.....	-8° 9'

(\*Lowest readings of thermometer given.)

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## FEBRUARY.

(*The most remarkable month in half a century.*)

The month of February has justly been termed "the fickle month," and that of 1878 was a "most" fickle one. Its abrupt changes from snow to rain, and cold to warm weather, made it the most remarkable month of the past half century. The first day of February in Montreal was ushered in by a blustering East wind. From Toronto, London, Hamilton, Picton, and numerous other places in Ontario, also from Boston, Mass., reports were received of a snow fall on the 1st of the month. Montreal and Quebec entirely escaped this storm, although it was on the verge of breaking over the heads of the devoted people of Montreal during the night of the 31st January. At Toronto there was quite a snow blockade; and at London several feet of snow fell, while Hamilton rejoiced in the first good sleighing of the winter. The morning of the 5th was one of the strangest of this strange month. When the city awoke a thick mist enveloped it. At about 10 o'clock the sun shone out brightly and quickly dispelled the fog. The snow then melted rapidly, and made walking most disagreeable. Up to this date there had been no snow at Winnipeg, Manitoba. Of this open state of the weather, the *Kingston News* writes: "Truly this is an open winter, and the following will prove it so: Capt. H. Deryaw, of Simcoe Island, has run his sloop, the 'Alacrity,' pretty near all the winter on the lake, not lying idle three days in succession, and he has carried on quite a business in fishing, going out on the lake sometimes ten or twelve miles, and he says he thinks he would experience no difficulty in going to Oswego. If the winter continues as it has been Capt. D. can attend to his business as easily as in summer. He lives but four miles from Kingston and has sailed from Four-mile Point all winter."

This mild, spring-like weather continued until the 8th. Before that date the snow had entirely disappeared from the streets, and wheeled vehicles were again in use. The river ice was honey-combed and very rotten. Notwithstanding this, however, scores of fast trotters were speeded upon the ice, and many loads of farm produce were brought into the market by the St. Lambert road. A great deal of rain fell in place of the usual snow which was experienced in some of the Western cities. On the evening of the 8th—after a warm and slushy day—a cold change took place and the weather became more wintry. On the 10th there was snow and very blustery weather at Montreal, which also extended East and West. A despatch from London, Ont., reads: "Snow has fallen to the depth of 15 inches on the level. It is feared that trains will not be able to get through on the G. W. R. and G. T. R., owing to the great fall of snow."

In Halifax "the first good sleighing" was reported. At Three Rivers the ice bridge was at last pronounced safe; and at Kingston the ice was again declared firm. On the 10th day of the month a driving, blustering snow storm existed in Montreal—the first genuine snow storm of the month—and was hailed with delight, for the country

as well as the city roads were entirely bare with the exception of a few local snow drifts. Up to this date, more snow, however, had fallen in the Dominion, as a whole, in February, than during any previous month. So far the thermometer had not been down to zero. The 13th and 14th were days remarkable for their brilliancy and warmth in Montreal. Similar weather continued until the 16th, when, in accordance with the prediction of Mr. Vennor—that snow would fall on the 16th or 17th,—a heavy snow storm visited Quebec on the 16th, and on the 17th a lighter fall made its appearance in Montreal. On the 18th very cold weather was experienced at London, Ont., and other points West and South of Montreal. There was another attempt at a snow-fall at Montreal on the 20th, but only a small quantity fell—sufficient, however, to make visible addition to roads and sidewalks. The week ending Feb. 23rd, was an eventful one, as far as the weather was concerned. Instead of the snows expected and predicted by Mr. Vennor, storms of rain and wind accompanied by destructive floods visited Toronto, Port Hope, Belleville and many other Western places. The following despatches will show the damage done by the storms in Canada: Quebec, 14th—"Rain storm continued all day, and has made the streets very slippery." Toronto, 23rd—"The River Don has subsided, and no further damages is feared unless another heavy fall of rain occurs. The damage done to property in the vicinity of its bank is very great, and most of the bridges across it have been injured." St. Catharines, Feb. 23rd—"The rains which have continued almost ceaselessly for two days have had the effect of producing a freshet in the water courses in the neighborhood of the canal. \* \* \* Loss about \$6,000. Many cellars of the stores were filled with water, and hundreds of dollars worth of goods were destroyed." Belleville, 23rd—"The ice on the lower part of the river broke up about four o'clock this a. m., doing considerable damage to property along the banks and flooding a large number of cellars under the stores on the front stores. \* \* \* The low lying portion of the city on the west side of the river is flooded, and the people have had to remove to the upper streets. The water is flowing over Coleman street to the depth of three feet. The damage by the flood is estimated at about \$3,000. The rain storm which preceded the freshet was the heaviest ever know here—two and a half inches of rain having fallen from Thursday evening till this evening." Some days later a despatch from Belleville stated the loss by the flood was very extensive, nearly all the barns and stables on the river bank south of the lower bridge had been destroyed, together with much property in cellars and a large number of pleasure boats and boat houses. The loss is estimated at \$20,000, and further damage is feared. As the water rose several feet, large cakes of ice were deposited in front of Coleman and Dundas streets entirely stopping traffic, and a number of men had to be employed in clearing away the *debris*. On the 23rd and 24th rain fell in torrents at Montreal, but in nothing like such quantities as at the points just named.

The insecurity of the ice bridge was proved by the breaking through of a farmer and his team on their way to St. Lambert. The ice was covered by the water to the extent of 12 inches. On the 25th, a correspondent at London, Ont., says: "Snow has fallen at intervals during the

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day, and sleighing is pretty good again. In Montreal wheeled vehicles again made their appearance, while those persons who did not like to cast aside their winter vehicles had a hard time of it in trying to drive along the bare streets of the city. On the last day of February a slight fall of snow occurred at Montreal and Quebec, and during the night the thermometer descended to zero, while an abrupt rise of the barometer was noticed. The precipitation for February far exceeded that of any previous month of the year. Rain fell on three days; snow fell on 12 days; rain or snow fell on 13 days. Total rainfall for month, 0.28 inches; total snowfall, 10.2 inches—equal to 1.00 inch water. Total precipitation in inches of water was 1.28.

RECORD AT MONTREAL.

	Min. Temp.
1. Overcast and windy; Easterly wind. Snow in Toronto, London, Hamilton, etc., Ont.....	5° 5'
2. Bright weather; fairly cold .....	2° 5'
3. Brilliant, mild day.....	1° 9'
4. Mild, spring-like day; complete thaw; little snow left.....	21° 6'
5. Misty morning; mild, spring-like day.....	
6. Complete thaw; bright and warm.....	24° 9'
7. Warm, spring weather. River ice dangerous; wheeled vehicles out.....	22° 9'
8. Warm, sultry day; cold, wintry night with hard frost	30° 7'
9. High wind; fair; snow in Toronto and other places West.....	16° 0'
10. Driving snow storm most of day; first fall of month at Montreal.....	11° 6'
11. Brilliant and fairly cold; trains blocaded yesterday at London, Ont.....	6° 0'
12. Over-cast and snowing; ice only now firm at Three Rivers and Kingston, Ont.....	4° 9'
13. Fair to cloudy and thawing hard in sun; snow going fast.....	11° 8'
14. Very brilliant day; fairly cold.....	2° 5'
15. Brilliant morning; white hoar frost; circle round moon	-2° 0'
16. Mist over whole city; bright day; snowing all day at Quebec.....	6° 5'
17. Snowing all forenoon; very mild.....	14° 0'
18. Brilliant and cold, with keen northerly wind; cold weather West.....	1° 5'
19. Hazy, cold morning; keen wind.....	1° 4'
20. Cloudy, and snowing most of day.....	11° 3'
21. Mild, slushy day, clouding towards evening.....	21° 5'
22. Snowing during night; sleet and crust on snow this morning; raining.....	28° 0'
23. Sleet and snow all night; snowing this forenoon. Great rains and floods West.....	28° 0'
24. Great slush in city; sleighing fair; complete break up	27° 5'

25. Cold Northwest wind ; no thaw ; cloudy. Snow in London, Ont.....	21 ° 6'
26. Fair to cloudy ; cold Northeast wind.....	20 ° 1'
27. Brilliant, warm day ; carts and carriages out again. Windy night.....	26 ° 7'
28. Over-cast and windy ; snowing at Montreal and Quebec ; sudden descent of thermometer to zero during night and abrupt rise of barometer.....	

### MARCH.

In reviewing the month of March it perhaps will not be inexpedient to glance hastily over the leading characteristics of this month before giving the usual telegrams and jottings from different points. March of 1878 was distinguished from the previous months of that year by having the only really heavy snow-fall of the winter, and also by the arrival in the Port of Montreal of the first steamboat of the season. The month of March opened with a bright cold day, with hard frost, and just enough snow to make pretty good sleighing. This seasonable weather was quickly followed by a disagreeable mixture of sleet and rain, which in turn was again frozen by a decidedly cold spell, which, together with a slight snow storm, again put the roads into fair sleighing condition. The weather then became very mild, and on the 7th rain descended in torrents, deluging the streets and very quickly changing into slush the little snow and ice that remained. The ice on the river also showed a tendency to break up ; great yawning cracks and fissures running in all directions over the ice, and, in many places, large spaces of clear water were perceptible. Many persons who attempted to cross on the river roads met with narrow escapes from drowning by breaking through the thin ice, into the water beneath. Up to this date, the 11th, there had only been one or two short visits of the proverbial March winds, and in their place mild and spring-like weather generally prevailed. A Cheyenne despatch stated that that place was visited by a most destructive storm, exceeding in violence and duration any previous one. A fierce wind—ranging in velocity from fifty to sixty-four miles per hour—drifted the snow in some places ten to fifteen feet high in the city. Trains on the different lines were completely snowed up, causing great loss to stock, &c. Under same date, we hear that a disastrous storm prevailed at Sidney and vicinity ; several large herds of cattle were driven by the storm into the Platte River and frozen. On the 13th, reports were received from Quebec, Halifax and several other points, of a fierce snow-storm, which was ushered in by a regular hurricane, and in some places succeeded by a heavy rain storm. This storm was experienced as far South as Wheeling, Va., when the heaviest storm ever experienced in West Virginia passed over Jefferson County. Hailstones larger than eggs fell for hours, unroofing houses, breaking glass and killing cattle, hogs and sheep. The heavy rain which followed washed out growing wheat, inflicting heavy loss, and damage was done to the amount of from \$75,000 to \$100,000. Minnesota was also visited by a severe rain

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storm, causing the rivers to rise some ten feet, overflowing the banks and flooding whole tracks of country. In St. Paul, Mo., the stage road was covered with snow in some places to the depth of 11 feet. St. Patrick's Day, 17th March, in Montreal, opened with a slight shower of rain. This, however, soon ceased, and by the afternoon the weather was very fine. At Halifax, however, a driving snow-storm prevailed. This was followed the next day by a heavy rain-storm, which quickly transformed the beautiful white snow into that disagreeable mixture—slush. The ice on the rivers was at this time in a rather precarious condition, and in many places ferries were running. At Belleville, Ont., the ferry steamer had been making regular trips ever since the 11th. On the 18th, two steamers left Collingwood, the Georgian Bay being quite free of ice. Navigation was open on Lake Superior and the Red River.

The River St. Lawrence was perfectly free from Longueuil down to Boucherville. At the latter place, however, the ice was still firm, and farmers were crossing. On the 20th street cars first made their appearance in Montreal, but after two or three days successful running, during which time people were congratulating each other on the disappearance of the winter mantle, the snow-storm—predicted some time before by Mr. Vennor—made its appearance. All day Sunday, 24th March, soft white flakes of snow swiftly descended to the earth, and long before the appointed time at which all good citizens turn out upon the streets to make their way to their different churches, a respectable layer of snow had fallen, as if to cover the large heaps of mud which had been scraped together preparatory to being carted away. The fall was a heavy one. Several trains were reported late owing to the snow drifts, and hundreds of men and horses that had been working at the Lachine Canal, were thrown out of employment, as the works had to be stopped. This, the heaviest storm of the year, seems to have prevailed all over Canada. From Quebec, the Lower Provinces, Eastern Townships, and different points in Ontario, the same report was received—heavy snow-storm, roads almost impassable. On the same day our friends across the ocean in England, Ireland and Scotland were visited by a fierce hurricane which swept across the country, and was succeeded by a violent storm of snow and hail, which quickly transformed the aspect of the country from genial spring to a wild and severe winter. The damage done to the newly budding crops by the severe frost was very great. The snow storm there was accompanied by vivid flashes of lightning. But to come back to our own Dominion. On the 26th and 27th in Quebec, there was a slight snow-storm, which, although not heavy, was sufficiently so to make the roads in good sleighing condition. During the few days previously, the ice had been rapidly disappearing from the river at Montreal, and on Friday, 29th March, the Longueuil ferry 'Montarville' steamed up into the harbor from her winter quarters at Boucherville. This is the earliest arrival on record since the year 1854, the nearest to it being April 4th, 1859. By a telegram dated 30th March, received from St. John, N.B., we are informed that "during the last 48 hours a snow, hail and rain storm prevailed, and was the most severe storm of the season. Over a

foot of snow fell on the level, and in many places the snow drifted to a depth of six and seven feet." In Montreal March took its departure in a quiet manner. The last day was rather cloudy and looked very much as if a snow-storm was brewing. A slight storm did ensue, but was not of sufficient duration to add materially to the condition of the streets. During the month of March rain fell on eight days, snow fell on 14 days, rain or snow fell on 18 days. The total rain-fall amounted to 0.58 inches; total snow-fall 19.4 inches—equal to 1.83 inches water. Total precipitation of water in inches was 2.41.

## RECORD AT MONTREAL.

1. Brilliant cold day; hard frost; clear night.
2. Overcast and windy; sleet and snow at night.
3. Light snow early morning; sleet and rain rest of day.
4. Snow early morning; colder with snow, making fair sleighing.
5. Fair to cloudy; milder.
6. Mild and cloudy.
7. Heavy rain early morning; ice breaking up; weather raw and gloomy.
8. Bright, warm and summer-like day—no March blow yet.
9. Brilliant spring-like day; roads bare and river opening.
10. Heavily overcast and spitting rain; colder towards night; hazy circle round moon.
11. Much colder weather; great snowstorm at Cheyenne (west); east wind.
12. Hard frost; cloudy day; no winds yet this month; robins abundant.
13. Rain and sleet turning to heavy snow; a fair amount of snow fell.
14. Some sleighs out again; mild and slushy; snow Halifax and Quebec yesterday.
15. Stiff frost; brilliant day; ice breaking up everywhere; spring birds.
16. Overcast with light snow; fair afternoon and evening.
17. St. Patrick's day; heavy cloud morning with rain; fair day; windy night.
18. Snow storm yesterday and this morning Halifax; fair at Montreal.
19. Dark and snowing morning; rain at 8 p. m. and windy; snow Quebec.
20. Bright, cold and windy; street cars commenced running Montreal.
21. Bright, cold and windy; very dusty.
22. Bright, cold and windy; very dusty; clouds increasing.
23. Light snow and rain; windy and cold towards night.
24. HEAVY SNOW STORM lasting all day; night very blustery; sleighs all out again.
25. Snowing, blowing and drifting; cleared towards noon; high wind.
26. Fair to cloudy; very mild and snow going fast; fair sleighing.
27. Light snow fall; snowing at Quebec and good sleighing.
28. Rain turning to snow; snow Ottawa; *great snow storm England.*
29. Brilliant day with cold wind; **FIRST STEAMBOAT ARRIVED AT MONTREAL.**
30. Brilliant day; warm in sun; severe snow storm at St. John, N.B.
31. Fair to cloudy; windy; light snow flurry.

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## APRIL.

April 1878, was a most remarkably advanced month—it was even more advanced than the April of 1877, and with its genial sunshine and warmth seemed more like May than the month of April. Swallows and other migratory birds arrived some ten days sooner than usual, which, according to the lore of the weather-wise people, was a sure sign of returning spring. From every quarter of the Dominion intelligence is received of signs of early spring. A Halifax telegram of the 9th says:—"After about ten days of continual wet weather, the sun shone brightly to-day, and everything betokens an early spring." Heavy rains and cloudy weather seem to have generally prevailed east of Montreal, while on the 2nd inst. New Brunswick was visited by a snow-storm. On the 5th Montreal and Quebec, particularly Quebec, received a sharp reminder of winter's presence in the shape of a fierce snow-storm. The river was very open, and ferry boats were running their usual trips; on the 4th the "Chambley" left this port with a full complement of passengers and freight; the steamer "Sorel" also made regular trips between Belœil and Sorel. Under date of April 10th, intelligence was received from Pembroke that as the Lake was clear of ice, the Forwarding Co.'s boats were to commence their regular trips in a few days.

After several days of warm, summer-like weather, the river ice which had been blocking the channel, gave way about mid-night on the 15th, and commenced slowly to leave the harbor, crushing and grinding for hours, the noise being heard for some distance on the still night air. The Ottawa boats commenced running on the 18th, one day earlier than last year. The weather at this time was still warm, although the evenings were generally rather cold and frosty. The steamer "Montreal" arrived at Quebec from Montreal on the 21st, and was the first boat arriving there that season. On the 20th we were visited by a heavy shower of rain accompanied by thunder. On the 22nd and 23rd, intelligence was received from Toronto, London, Hamilton and several other Western points, of a severe rain and thunder storm, and later on, the 27th, heavy rains descended into the Ottawa Valley. Allan's steamship "Sarmatian," the first of the season, arrived in the Montreal Harbor on the 30th. Owing to the general dampness of the month, colds, and the many diseases attending colds, were prevalent. Many children attending school suffered from throat diseases.

## THE RECORD AT MONTREAL.

*A remarkably advanced season.*

1. Cloudy, raw and showery. Ice still firm between Montreal and Quebec.
2. Alternately cloudy and bright. Heavy rains to eastward; snow in New Brunswick.
3. Warm summer-like day; ice gone at Three Rivers; windy night.
4. Alternately cloudy and bright; strong northerly winds; evening cold, showery and blustry.

5. Snow at Quebec yesterday ; snowing at Montreal in the morning ; cold, rain afterwards.
6. Snow, sleet and rain, with strong blow from North-eastward. Very wet in Halifax and St. John, N. B.
7. Snow changing to sleet and rain ; cold evening and night.
8. Overcast, but fair. Clear night.
9. Warm summer-like day.
10. Fair, but cloudy ; light and pelting rain ; *swallows arrived*.
11. Raining all day ; evening clearing. More swallows.
12. Raining hard all day.
13. Cloudy, cold and wet ; great change in temperature.
14. Cloudy and cold ; wind in gusts ; showery evening.
15. Cloudy and cold ; fair.
16. Alternately bright and cloudy ; fair summer-like day. Numbers of spring birds.
17. Cloudy to fair summer-like day. Small flies out in great numbers
18. Hazy summer-like day. *Ottawa boats commenced running*, only one day earlier than last year.
19. GOOD FRIDAY. Cold morning, but warm day ; evening cloudy.
20. Showery morning ; wet afternoon and colder ; thunder in evening.
21. Cold overcast day, with N. W. wind ; clear, cold evening and night, with frost.
22. Fair to cloudy and cold. Rain and thunder in Toronto. Rain in Hamilton and London, Ont.
23. Cloudy and cool. Rain and thunder storms at several points West.
24. Sultry and overcast ; severe thunder storm in Toronto.
25. Cloudy, wet and sultry ; wind storm at noon.
26. Wet and lowering weather ; night fair.
27. Cloudy and sultry ; thunder clouds gathering. Heavy rains up Ottawa Valley.
28. Wet day.
29. Cloudy, cool and wet ; evening clearing and colder.
30. Fair, with cold winds ; night cold. "*Sarmatian*" arrived at Montreal ; *first steamship of season*.

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MAY.

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May was a cold, wet, backward month, rain falling on 22 days in Montreal ; snow on 4 days in different parts of the country, while frosts at night extended as late as the 29th of the month, doing considerable damage in many parts of the country. On the 11th a telegram from Bradford, Pa., recorded "frequent snow falls" and severe frosts ; while a despatch from Rockliffe, O., of the same date, said : "It has been snowing fast this morning. Snow fell nearly one half inch. The mountain across the river is white with snow now. The wind is north-west, and cold ; therm. 37°." On the 13th the *Montreal Witness* said : "The weather has been unusually cold for the season since Saturday. Hail fell yesterday, and snow this forenoon. Considerable damage by frost to tomato and other sprouting plants."

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## THE RECORD AT MONTREAL.

1. Cold, showery and cloudy ; almost frost at night.
2. Cloudy and showery.
3. Wet and windy ; heavy rain all night.
4. Cloudy and unsettled ; wet night.
5. Pouring rain all day ; wet night.
6. Cold westerly wind with clouds ; first fair day of month.
7. Cold easterly wind ; almost cold enough for snow ; showery.
8. Cloudy to fair ; sultry with wind and storm clouds ; wet night.
9. Cloudy and windy with rain forenoon ; afternoon sultry with storm clouds.
10. Cool morning with clouds ; showery.
11. Cold and wet with an approach to sleet ; snow at many points ; cold night.
12. Rain, sleet and snow ; wet all day.
13. Cloudy and cold ; very backward weather ; snowing forenoon. Quebec special to the *Witness*, May 13—*At Lake Beauport yesterday two inches of snow fell.*
14. Snow and sleet early in morning ; day cold and cloudy ; frosty night.
15. Fine day ; overcast towards evening
16. Fair and sultry ; evening frosty.
17. Fair to cloudy ; sultry day ; storm clouds.
18. Day fair throughout and warm ; cool evening.
19. Windy, warm and slightly overcast ; wind strong from S. E. ; wet evening and night.
20. Cold rains with strong wind ; wet night.
21. Cold north-westerly wind with light rains ; cold evening with frost.
22. Bright, windy day ; clear cold evening with frost.
23. Bright, cool morning ; warmer, clouds gathering in evening.
24. Cloudy, cold morning ; showery during day ; evening fair.
25. Hot, muddy and cloudy morning ; wind and thunder storm at noon ; lightning at night.
26. Sultry weather with steamy clouds ; storms on all sides ; hail and wind.
27. Heavily clouded with spittings of rain ; sultry and oppressive.
28. Warm day with spittings of rain ; altogether fair.
29. Cool day with clouds ; night cold ; frost in many sections of country.
30. Fair sultry day with occasional showers.
31. Fair, clear and warm ; cool evening and night.

REMARKS.—As will be seen from the foregoing record, May, 1878, was a cold, wet, backward month, rain having fallen on 22 days, and snow on 4 days ; while frosts at night extended as late as the 29th day of the month, doing considerable damage in many parts of the country.

## JUNE.

The month of June set in with sultry heat, which was succeeded by a cold spell lasting from the 5th to the 8th, during which much damage was done by frosts in different parts of the country. The *New Dominion*, Ormstown, under date June 13th, 1878, says: "The air, particularly at night, has been impregnated with frost. On Wednesday night of last week the frost did considerable damage to potatoes, tomatoes, beans, cucumbers and other tender plants, particularly on black lands. On the mud soil of the 4th and 5th concession of Ormstown the potato plants were completely frozen to the ground. On Thursday morning water left in pails over night in exposed places was coated over with ice as thick as window glass. Vegetation, which started forth so promisingly a few weeks ago, appears to have received quite a severe check by the cold." As a whole the month was cool, wet and backward up to the 15th, when the warm weather commenced with drought and intense heat, which lasted throughout July to the latter part of August.

## THE RECORD AT MONTREAL.

1. Fine warm summer day.
2. Fair to cloudy; sultry.
3. Very warm day; northern lights evening; sultry.
4. Rain with thunder and lightning forenoon; afternoon sultry and cloudy.
5. Cold change with N. E. blow; weather fall-like.
6. Cold with westerly wind; frosty evening.
7. Overcast cold day; red sunset; cold night.
8. Fine day; cold evening.
9. Pleasantly cool and fair.
10. Overcast and hot; steamy clouds; storms in air.
11. Wet forenoon; fair afternoon; wet evening, and night with thunder.
12. Warm, with showers in afternoon.
13. Fair to cloudy; unsettled weather.
14. Fair and clear; warm.
15. Hot weather.
16. Oppressive and showery; thunder storm at night.
17. Cloudy and sultry.
18. Hot day with warm wind.
19. Fine hot summer weather.
20. Haze and heat with smoke in air; overcast.
21. Showery with wind squalls; rain during night.
22. Cloudy sultry morning; showery afternoon; wind at night; cooler.
23. Cloudy and showery; storm clouds on all sides; cool night.
24. Weather unsettled and showery; thunder; cold, showery evening.
25. Clear and cool, with strong northerly wind; frost at night.
26. Warm day with increasing cloud; thunder storm and heavy rain towards midnight.

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27. Cloudy, oppressive and showery ; cool, clear night.
28. Warmest day of season so far ; hot haze.
29. Intense heat again ; steamy clouds.
30. " " " ; oppressive evening and night.

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JULY, 1878.

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(*Further described in the chapters "A Heated Term" and "The Storm Period."*)

1. Dominion Day—intensely hot.
2. Intense heat ; lightning evening and night.
3. Warm, but slightly cooler weather.
4. Sultry and overcast.
5. " " " ; evening cool.
6. Haze and heat with wind.
7. " " "
8. " " " ; very dry spell.
9. Hot day with steamy clouds.
10. Overcast and cooler, with light rain.
11. Cool and fair ; night quite cold.
12. " " " ; air full of smoke from bush fires.
13. Hot and windy. Rain much wanted.
14. Warm, cloudy and windy ; oppressive.
15. Fair and pleasant weather, but smoky.
16. Overcast, with rain afternoon and evening. Dense smoke.
17. Heavy rains, with thunder and lightning ; strong wind.
18. Cloudy and oppressive. Reports of heat from all points.
19. Heated term continues. Numerous cases of sunstroke.
20. " " " Drought continues.
21. Cloud, showers and wind.
22. Grey, cold and windy, with showers.
23. Warm day again ; night almost frosty.
24. Hot, smoky and sultry. Cloud gathering.
25. Overcast and smoky ; oppressive weather ; rain at night.
26. Air still full of smoke ; much cooler ; rain all day.
27. Cloudy and showery ; cool and wet change everywhere.
28. Beautiful! cool, fair weather. Night almost frosty.
29. Oppressive, cloudy day. *Partial eclipse of sun.*
30. Cloudy and fairly cool
31. Cloudy, cool and showery.

Altogether a very dry and hot July as predicted.

## AUGUST, 1878.

(The month of storms and devastation of life and property.)

## THE RECORD AT MONTREAL.

1. Rain with storms of thunder and lightning.
2. Oppressive and cloudy ; severe thunder storms everywhere.
3. Heat with storm clouds gathering ; great display of lightning at night.
4. Sultry, threatening weather. Great rain storm at Toronto ; continuous display of lightning through night ; numerous deaths by lightning, and destruction of property.
5. Cloudy and warm.
6. Cloudy and showery.
7. Heavy rains with thunder and lightning ; great storms around Toronto and Western States. "The great storm yesterday was very severe in several parts of the Dominion. Great damage has been done to crops, and the loss on lightning-struck buildings cannot as yet be estimated."—*Star*.
8. Cloudy and showery, with a great deal of lightning during night.
9. Severe rain and thunder storm at daybreak ; terrific storms in the West and United States of wind and rain.
10. Cooler weather with showers ; night quite chilly.
11. Storms in air with gales of wind ; night quite cold.
12. Fair, cool weather ; night frosty ; *eclipse of moon*.
13. Warm, with vapory clouds ; rain has been falling for the last week at Three Rivers.
14. Warm weather with thunder storms.
15. Heavy, depressing weather ; heavy rain and vivid lightning at night.
16. Very oppressive weather, with thunder storms and heavy rain-falls.
17. Rain all last night ; thunder storms and heavy rains afternoon ; cool night.
18. Cooler and showery ; agreeable change in weather.
19. Warm, cloudy and showery.
20. Cloudy and much cooler ; fall-like evening ; *snow reported Batterssea, Ont.* ; great rains at St. John, N. B. Predicted relapse of the weather.
21. Fine and pleasant weather.
22. Warm and cloudy.
23. " " "
24. Cloudy and wet.
25. Cloudy, windy and cool ; quite fall-like.
26. " " "
27. " " "
28. } Cloudy to fair weather ; cool, hot term ended.
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31. Rain at night.

This was the most terrible month of storms that has been experienced in a period of 30 or 50 years.

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## SEPTEMBER.

*(A Month of Floods.)*

While July and August were months of storms, that of September was one of floods, not only in America but across the Atlantic. The *Witness* despatch from Toronto, dated Sept. 12th, carefully summarizes the terrible flood of that city. It says:—"Early this morning the water in the river Don commenced to rise, and by nine o'clock it had increased in volume to such an extent, that residents living along its banks made all haste to remove their household effects. The water continued rising until one o'clock, when it appears to have reached its highest. About this time the Don and Danforth Bridge gave way with a crash, and was carried down the river towards the Bay. The floating timbers and the water charged on the Gerrard street bridge, and succeeded in carrying off two-thirds off it. The next bridge south was that of King street. For some time it withstood the seething water, but at about 4 o'clock it collapsed. The iron bridge of the Grand Trunk was the next south, but the madly rushing torrent spent its force on this sturdy structure in vain. The remains of the wrecked bridges piled themselves up against its side fully twenty feet high, forming a complete barrier, and so it stands at present. Henry Smith, a bricklayer, living at Don Mount, very foolishly attempted to wade across from the city side of the King street bridge before it had entirely collapsed. He had only got a few yards from the shore, when his feet were knocked from under him by the running waters, and he was carried down towards the Bay. Every effort was made to save him by those standing on the bank, but they proved futile. A little girl, whose name could not be learned, was also washed away from the King street bridge. The current was running at the rate of twelve miles an hour past the ruins of the King street bridge. A number of persons crossed the Grand Trunk Bridge, but they had to swim through a small lake on the country side. No trains have passed over this bridge to-day, and traffic is entirely suspended east from here. The same is applicable to all other railways running out of the city, the bridges being carried away on all the lines. Four men were on the South Park Bridge when it started down the river, and before they were rescued they experienced a most thrilling adventure. Ropes were thrown to them which they failed to catch, small boats were launched but the occupants generally asked to be drawn to shore again when the craft got into the rapid current. At last a small raft was constructed and started from a point north, so that it could be secured by those on the bridge. This happy expedient proved successful, and the thoroughly frightened quartette were drawn to shore amidst the enthusiasm of the thousands of spectators who witnessed the sight."

This storm was not confined to Toronto. In London, Ont., "the rain fell in torrents," filling the river, flooding the valleys and washing out the railway bridge. At Brantford, Ont., it rained continuously for three days. From Smithfield, Ont., it was reported that sixteen bridges in that vicinity had been torn away by the freshets. At Port Credit, Ont., "both bridges crossing the river, and all bridges in the vicinity were carried away. Five vessels broke loose and drifted out on the

Lake. Three of them became total wrecks ; two of them were overtaken by their owners and secured." From Scotland, Ont., the word was sent that it "rained incessantly for the last thirty hours ; twelve inches of rain fell last night" (the 12th). On the 14th the following sorrowful statement was sent from Brantford :—"The late heavy rains have caused a destructive flood here. The fire bell rang early this morning, calling for assistance for parties living on the flats, who had to be taken off in boats, their houses being flooded. About four hundred feet of track at the west end of the Brantford, Norwich and Port Burwell Railway bridge is washed away. The rails and ties hang on the bridge about four feet above the water. Brantford is nearly all flooded, the water running through the streets, show grounds, and over the railroad track. Sidewalks are all floating and boats have to be used. It is reported that a man named Lundy was drowned this morning. He was driving to the city. The road being covered with water, he missed the road and the wagon upset. The horse escaped, but there is no trace of Lundy. At 3 p. m., the river bridge went with the flood. Three men were on it at the time ; one named T. F. Tyrrell, and another, unknown, were drowned. There is now no communication between Brantford and West Brantford. A large number of farmers are detained here until the water goes down." Reports similar in their general import, but varying in their particulars, were received from Patterson, Uxbridge, Hallem, Bridgeport, Selkirk, King, Galt, Otterville, Newmarket, Alliance, Picton, Port Dalhousie and other towns and villages in Ontario, showing the storm's wide extent. It also reached Montreal and points East, but on a less degree.

Later on in the month, the 26th, a tornado passed over the country. At Markdale, Ont., a barn was struck by lightning and destroyed ; at Corunna, Ont., "it was accompanied with torrents of rain, doing great damage, blowing down fences and tearing up apple trees by the roots. One tree, loaded with apples, was carried one hundred feet. The drill shed was blown down and a number of houses suffered, losing shingles, etc. The chimney of the English Church was blown down, and fell through the roof of the vestry, destroying the contents. Lumber wagons were driven hundreds of feet. At the river it turned small buildings over and carried one over the top of a willow tree a hundred feet away." This storm passed over the States boundary on the lakes, and appears to have been felt even in Spain. The cable despatch says :—"A frightful storm of rain, hail and wind, spread havoc through several Provinces. The gale blew on the Coast of Portugal with special violence, over Lisbon and the Bay of Biscay. Several shipwrecks are already reported. The hail was particularly destructive in the vineyards. There is much suffering among the population." Another stated to be an unprecedentedly prolonged thunder-storm, which broke over Lisbon and the neighboring provinces, is reported. The damage was extensive—three persons were killed and a large number injured." The first snow recorded in the papers was on the 27th, the despatch from North Wakefield saying :—"There is a slight fall of snow here this morning." Snow was previously recorded at different points throughout the country.

*(The "Review" is continued on the 65th page.)*

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MEMORANDA.

61

A series of horizontal dotted lines for writing, enclosed in a decorative border.

MEMORANDA.

A series of horizontal dotted lines for writing, enclosed in a decorative border of small diamond shapes.

MEMORANDA.

63

A series of horizontal dotted lines for writing, enclosed in a decorative border.



(Continued from page 48.)

## THE RECORD AT MONTREAL.

1. Cloudy day ; wet, cool night.
2. Heavy morning mists ; fall-like weather.
3. Overcast and wind from eastward.
4. Easterly winds and local showers. Heavy rains at Toronto.
5. Warm and cloudy ; showery.
6. Easterly winds and cloudy weather.
7. Fair to cloudy.
8. Fair, with mackerel sky.
9. Fine weather, with slight cloud.
10. Sultry day ; windy, wet night ; fall-like.
11. Dark, fall-like day ; quite cold.
12. Wet, drizzling day ; cold and fall-like.
13. Dark, wet, windy weather. Rained 48 hours in Toronto ; rains and floods in West ; great loss of life and property.
14. Cloudy ; westerly winds ; cold and leaves falling fast. End of summer.
15. “ “ “ “ “ “
16. Cloudy and cold. *Snow reported from Upper Gatineau.*
17. Unsettled and wet ; severe thunder storms in the evening ; heavy rains.
18. Very wet last night. Fine, cool day.
19. Fair to cloudy and cool, with showers.
20. Sultry and cloudy, with southerly winds ; very windy night.
21. Cool and cloudy, with westerly winds ; cold night.
22. Cool, bright and fall-like ; frost at night.
23. White hoar frost ; fine, calm day ; night cold.
24. Dark morning and very wet day. *Snow to northward of Quebec.*
25. Fair to cloudy ; evening and night clear and cold. Great drought in Halifax, N. S. ; no rain having fallen for a month.
26. Rain early morning ; fine day, with strong westerly wind.
27. Fair to cloudy, with cold wind ; cold night, with sharp frost.
28. Ground white with frost. Bright, cloudless day. *Papers record snow-falls.*
29. Cloudy and warm.
30. Overcast, but fair, with southerly wind.

## OCTOBER.

October followed the general rule of this year in bringing with it terrible storms. On October 9th one passed over Toronto from the North-West, uprooting numerous trees, and carrying off the turrets of the Berkeley street church ; over Ottawa, scattering lumber piles, and blowing down the scaffolds of unfinished buildings ; over Aylmer, overturning houses ; over Port Hope and Belleville, preventing the egress of vessels from those ports ; over Barrie, carrying off the tops of houses, and covering the H. and N. W. R. R. at various places with large trees,

which had been torn up by the roots. A day later, accounts came from points East regarding it. In Halifax it raged for three hours, the rain falling heavily at times.

A week later, a storm which was reported as prevailing west of the Rocky Mountains, advanced with great rapidity eastward, leaving destruction everywhere in its wake. In California it was accompanied with continued and heavy rains; at Salt Lake City there was a very heavy snow fall; at Nantucket, Mass., it was reported as "the severest (storm) that has occurred on the island since the remarkable gale of 1841. The wharves were flooded; vessels parted from their moorings; others, lying at the wharves, were injured by being dashed against the stone abutments." Ontario, which seems to have borne the brunt of most of this year's storms, felt this one also severely. At Teeswater, "for upwards of two hours, between midnight and 2 a.m., on the 14th and 15th, the sky was one continued glare of light, as flash after flash followed each other in rapid succession, part of which time rain fell in such torrents as to cause the streets to present the appearance of a good-sized creek. For miles south of this village the lightning struck and destroyed a number of poles on the Montreal Telegraph Company's line, five of which were shivered from the top down."

On the 19th snow fell briskly all the afternoon at Buckingham, Q., accompanied by a tornado; on the 22nd the "first snow of the season" was reported from Chicago, and three days later the Belleville papers reported a considerable fall of snow in the northern townships of the county. A Lachute paper of the same date says that so great was the fall of the rain and snow during the week that the river at that place rose nearly three feet. On the 28th reports from London, Belleville, Teeswater, Kingston, Invermay, Fergus, Woodford, Owen Sound, recorded falls of snow averaging from a "flurry" at London to the depth of a "foot or more" at Invermay.

On the 30th a telegram from London, Eng., said: "A slight fall of snow here, and considerable snow in various parts of the country." On the same day word came from Winnipeg, Man., that "Navigation has been suspended on the Red and Assiniboine Rivers on account of the ice."

THE RECORD AT MONTREAL.

	Temperature.	
	Max.	Min.
1. Fair warm day .....		
2. Unsettled and showery all afternoon.....		
3. Warm "Indian Summer" weather; heavy rain with thunder and gale of wind during afternoon.....		52° 5
4. Fair to cloudy.....	54° 6	50° 6
5. Balmy, summer-like weather.....	58° 5	45° 2
6. Cold, cloudy and showery; sharp frost at night	53° 6	
7. Fair to cloudy; dry weather at Nova Scotia..	57° 3	42° 9
8. Fine, "Indian Summer" weather.....	60° 8	49° 0
9. Cloudy, with heavy rains and thunder storms..	64° 10	48° 2

- 10. Green
- 11. Fair
- 12. Cold
- 13. Balmy
- 14.
- 15. Wet
- 16. Cloudy
- 17. Fair
- 18. Very
- 19. North
- 20. Cloudy
- 21. "Indian"
- 22. Foggy
- 23. Dark
- 24. Fair
- 25. Bright
- 26. Very
- 27. Cold,
- 28. White,
- 29. Cloudy
- 30. Snowing
- 31. Cloudy

November and 5th there a little snow fell than an inch was reported. Snow has been very little reported a "cold" while Halifax, Eng., under the for this season throughout Canada, were buildings in the more, Washington ship of the seas

10.	Great wind storm last night over large area ; telegraph wires down everywhere ; storm experienced from Toronto to Halifax ; fall-like weather.....	54	2	45	2
11.	Fair to cloudy .....	58	7	42	9
12.	Cold and cloudy with showers ; sharp frost at night.....	53	0	45	5
13.	Balmy, "Indian Summer" day ; hazy night..	60	3	41	8
14.	Wet weather.....	67	6	45	6
15.	Cloudy and showery ; clear at night.....	62	9	56	2
16.	Fair to cloudy with strong southerly blow....	64	3	51	9
17.	Very wet and windy ; cold and fall-like.....	74	2	50	0
18.	North-east wind and cold rains ; sleet and snow	44	0	36	0
19.	Cloudy and cold day ; snow at North Troy, Vt.				
20.	"Indian Summer" weather ; snow at Manitoba	64	0	43	4
21.	Foggy ; do do snow in Chicago	67	7	40	1
22.	Dark and cloudy with rain ; cold, blustry night	56	4	47	0
23.	Fair clearing weather ; great wind storm yesterday in United States ( <i>see record</i> )....	55	6	42	3
24.	Bright, fair weather ; Easterly wind.....	51	8	37	1
25.	Very wet day throughout.....	48	6	37	0
26.	Cold, windy and wet ; sharp frost at night....	53	1	44	8
27.	White, hoar frost ; ground frozen ; snow West	44	0	31	0
28.	Cloudy, cold day, snow on Quebec Mountains	47	0	27	8
29.	Snowing all day ; snow at several places in England.....	43	5	35	1
30.	Cloudy, cold and unsettled ; snow on ground				
31.					

NOVEMBER.

November was not an unusual month in Canada. On the 4th and 5th there was a severe frost throughout the country, and on the 7th a little snow fell in Eastern Ontario, and Western Quebec, hardly more than an inch at any place. In Manitoba, at the same date, the season was reported as "remarkably far advanced for this time of the year. Snow has been falling at intervals since early on Friday morning, but very little remains on the ground. Lake Manitoba is frozen hard enough for teams." On the 12th and 13th, dispatches from Halifax reported a "considerable" snow-fall in various parts of Nova Scotia, while Halifax itself was experiencing a rain-fall. Cables from London, Eng., under the same date, said, "snow storms of exceptional severity for this season prevail in the north and north-west of England, and throughout Scotland." On the 24th, the United States and parts of Canada, were visited by a hurricane, which threw down unsteady buildings in the city of Quebec, and caused serious damage in Baltimore, Washington, Cape May, and other places. The last mail steamship of the season sailed from Quebec on the 23rd.

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## RECORD AT MONTREAL.

	Temperature, Montreal.	
	Max.	Min.
1. Cold and cloudy with snow; wintry-like. Heavy falls of snow around Three Rivers.	43°	1 29°
2. Warmer, cloudy and wet.	44°	5 37°
3. Cloudy to fair, with cold wind; ground frozen.		
4. Ground white with snow at Montreal and other points.	47°	8 33°
5. Snow at Toronto, and wintry weather everywhere. "Severe snow storm, Vienna, Austria."	28°	5 19°
6. Cold, brilliant weather; six inches of snow at Barrie, Ont.; light fall of snow at Belleville.	35°	0 23°
7. Snowing at Ottawa, Toronto, and many other points.	30°	0 23°
8. Wintry weather; hard frosts.	37°	0 24°
9. Bright, wintry weather; skating. Very stormy weather reported in eastern and northern Europe.	40°	2 26°
10. Cloudy and warmer weather; snow at Ottawa (2 inches.)	39°	2 33°
11. Ground white again with snow, Montreal; rain.	35°	3 32°
12. Fair to cloudy; cold wind.	45°	4 33°
13. Fair to cloudy, with snow flurries.	39°	9 28°
14. Very fine weather; cold night.	36°	4 26°
15. Fine weather; sharp frost.	40°	0 26°
16. Fair to cloudy and cold.	44°	0 28°
17. White hoar frost; cloudy and showery.	42°	3 28°
18. Cloudy and wet weather everywhere.	38°	3 32°
19. Overcast and raw.	38°	1 33°
20. Cold and overcast; sleet and rain.	40°	0 37°
21. Warm weather, with white mist; unusual.	40°	3 33°
22. Wet and cold; snowing at Ottawa in evening. Storm of wind at Quebec and Montreal.	39°	9 33°
23. Cloudy to fair; wet afternoon and evening.	38°	2 32°
24. Slight fall of snow during night; fair day.		
25. Cloudy, with snow at Montreal.	34°	7 23°
26. Ground well covered with snow; no sleighing yet.	36°	0 25°
27. Snow still on ground; sleighing for some time at Upper Ottawa; cloudy, raw and wet at Montreal.	32°	1 26°
28. Cloudy and raw; boats laid up for winter.	40°	9 31°
29. Cloudy and cold, with snow flurries, <i>Marquis of Lorne and Princess Louise arrived at Montreal.</i>	38°	0 31°
30. St. Andrew's Day; cloudy and cold. Therm. 10° below zero at Fort Pelly, Man.	37°	0 26°

(A cold dip occurs, three times out of five, on St. Andrew's Day, or 1st of Dec.)

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13. Fine,

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22. Cloudy;

23. Morning

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WEATHER RECORD FOR THE LAST TWO MONTHS  
OF 1877.

RECORD AT MONTREAL.

NOVEMBER, 1877.

1. Weather clear and seasonable; wind from W. to S. W.; thermometer 38°.
2. Raining heavily all day; wind from S. E. to S. W.; thermometer 41°.
3. Cool, cloudy and dull; fine in the afternoon; wind W.; thermometer 39°.
4. Cloudy and cool; wind W.; thermometer 32°; sharp shock of earthquake felt at Montreal during night, lasted fully 15 seconds.
5. Regular Fall day; intermittent rain; snow and sleet towards night; Wind from S. E. to N. E.; thermometer 36°.
6. Clear and cold; wind W.; thermometer 21°.
7. Clear and fine; wind from S. W. to W.; thermometer 33°.
8. Morning fine; afternoon cloudy; rain fell and continued all night; wind variable; thermometer 38°.
9. Cloudy, hazy and dull; light rain falling at times; wind from N. E. to N.; thermometer 40°.
10. Bright and fair; wind from N. E. to E.; thermometer 22°.
11. Cloudy and dull; indications of snow; wind N. W.; thermometer 27°.
12. Cloudy, rather mild; wind S. W.; thermometer 35°.
13. Fine, clear and seasonable; wind variable; thermometer 27°.
14. Morning cloudy; fair in the afternoon; hazy in the evening; wind from W. to S. W.; thermometer 33°.
15. Mild, wet and disagreeable; wind S.; thermometer 46; streets in a filthy state.
16. Cloudy, with frequent showers of rain; wind S. W.; thermometer 51°.
17. Foggy, hazy and cloudy; wind from S. W. to S. E.; thermometer 38°.
18. Cloudy and showery throughout the day; wind W. thermometer 41°.
19. Light snow fell during morning; afternoon cloudy; wind N.W.; thermometer 28°.
20. Cloudy and cold; wind N.W.; thermometer 26°.
21. Clear, bright and cold; wind N.E.; thermometer 21°.
22. Cloudy; rain fell in afternoon; wind S.; thermometer 31°.
23. Morning foggy; rain fell during day; evening foggy; wind E.N.E.; thermometer 37°.
24. Cool, cloudy and dull; wind N. E.; thermometer 35°; streets a sea of melted snow and mud.
25. Damp and dull; light rains falling most of day; wind E.; thermometer 37°.

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s Day,

26. Cloudy and mild; wind N. E.; thermometer 41°; harbors all clear and ready for winter.
27. Rain fell last night; to-day mild and cloudy; wind S. W.; thermometer 50°.
28. Raining again last night; to-day the weather is cloudy and damp; wind W.; thermometer 43°.
29. Dull and cloudy, with occasional flurries of snow and rain; wind variable; thermometer 37°; river free from ice; water gradually rising.
30. Cold and cloudy; wind W.; thermometer 29.

DECEMBER, 1877.

From the last few years "old-fashioned" winters would almost appear to be things of the past, the frosts and snows with which the month of December has been associated with in Montreal having been substituted by rain and balmy breezes. The December of 1877 was a very remarkable one in this respect, the snow-fall being singularly meagre, while it was January before the ice "took" on the river. A single newspaper, dated Dec. 17th contained the following different items: "Winnipeg.—The weather continues warm. No snow has fallen yet; and sickness is very prevalent amongst children, on account of the unseasonable weather." "Hamilton.—The weather was so remarkably fine yesterday that several robins were seen on the mountain and flying through the city." "Montreal.—The mildness of the weather yesterday and to-day surpasses anything of the kind for years back at this season. The ice that had formed on the bays along the shores on both sides of the river has disappeared, and the Longueuil ferry boat is running regularly, and likely to continue, to all appearance, for some days longer. This time last year the people were crossing on the ice-bridge, and the Longueuil ferry boat went into winter quarters on the 10th December." "Halifax.—The weather continues very mild in the city; no sleighing yet, while in the country east and west they have plenty of snow. On the line of railway from Amherst to Truro there are fifteen inches of snow." Two days later the Hamilton correspondent to the *Galt Reformer* stated that "some of the farmers attending court on Thursday report that on their way to the city they saw a number of people in the fields ploughing away as unconcernedly as if it were the middle of June." As the month grew on apace propositions for excursions on Christmas came from all parts of the country, and Mr. Vennor's name was bandied about at a great rate. On the 20th the WITNESS had the following, which contains the opinion expressed by numerous papers in as many different ways: "Mr. Vennor some days ago said he expected there would be a cold snap between the 15th and 20th insts. Sure enough, the cold snap came on the 16th and 17th, and caused many to hope that his forecast for another warm period before Christmas would not be experienced, but on the 19th and 20th the weather again grew warm, and a vigorous thaw has opened our horribly muddy streets."

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Christmas day of 1877 was probably celebrated in Montreal as it never had been before. Wheels took the place of runners in drives; skaters looked wistfully at the rolling waters of the mighty St. Lawrence; and sought the glassy surface of some more extended field; lacrosse men for along the shore instead of some more extended field; lacrosse men for the first time engaged in a contest at so late a date; most unique of all, a steamboat glided quietly and as easily as on the warmest day in the year to her dock, and conveyed a party of excursionists upon a trip down the river. A flower in full bloom was discovered in a garden, and a day or two later a ploughing match took place in the County of Simcoe. On the 20th the *Meaford Monitor* said: "Don't suppose the very oldest inhabitant remembers so mild a December as this—one in which ploughing has been carried on right up to Christmas. Mr. Gifford has done, with one team, fifty acres of ploughing since harvest."

In Europe the weather during the holidays was, as a whole, exceptionally fine. In London there was a slight fall of snow on Christmas night, the first of the season, which was followed on the 27th by a hard frost, with clear weather, while severe cold with heavy snow was the rule throughout the north of the island. In Paris sleet and rain fell the greater part of Christmas day.

In the United States the weather was that of Canada. The *Cincinnati Commercial* of Dec. 28th reports that "travellers and despatches from various localities in Illinois, Iowa, Wisconsin and Minnesota say that the oldest inhabitants have never seen anything like the present terrible embargo of mud that prevails in every city, town and county roads, alleys and lanes. In the smaller cities and towns where there are no extensive means of clearing the mud from the street, all commercial operations of any magnitude have been suspended. The farmer rarely ventures to town even in a light weight waggon, and when driven out to purchase sustenance, he goes on horseback, and takes a day for a trip of a few miles. There is no abatement of the nuisance, and cattle, hogs, grain, and produce of all kinds are kept from market to the detriment of all hands. Never before in thirty years has the Upper Mississippi been open to navigation in the holiday season." Thus the old year closed, and the new year opened on a similar scene.

## RECORD AT MONTREAL.

1. Fair and clear; wind N.; thermometer 18°.
2. Cloudy and cold; wind N. W.; thermometer 10°.
3. Light flurries of snow in the morning; cloudy all day; wind S. W.; thermometer 27°.
4. Mild and cloudy; wind from S. W. to S. E.; thermometer 35°.  
Most all of the river vessels have left for winter quarters.
5. Cloudy and hazy; afternoon raining; wind S. Thermometer 39°
6. Cloudy; raining in the afternoon; wind from S. W. to N. W.; thermometer 37°.
7. Cloudy and cold; wind S. W.; thermometer 16.
8. Light snow falling; afternoon cloudy; wind S. W.; thermometer 31°.

9. Cloudy and dull; indications of snow; wind N. W. Thermometer 21°.
10. Cloudy; wind E.; thermometer 19°. Ice in basins gradually increasing.
11. Soft snow falling all day; very disagreeable; wind S. S. E.; thermometer 30°.
12. Morning cloudy; noon fair; evening cloudy; wind W.; thermometer 33°.
13. Soft snow falling all day; wind from S. to W.; thermometer 34°.
14. Clear and cold; afternoon cloudy and growing milder; wind W. Thermometer 14°.
15. Mild and dull; wind S. W.; thermometer 38°.
16. Mild and very fine; wind variable; thermometer 40°.
17. Mild and cloudy; wind W.; thermometer 36°. Sleighs have altogether disappeared from the streets.
18. Fair and clear; wind N. E.; thermometer 15; Longueuil ferry still running. No ice on river.
19. Rain and sleet falling throughout day; wind S.; thermometer 31°. Streets very slippery, making walking a difficult task.
20. Light rain last night; to-day the weather is mild and cloudy; wind N. E.; thermometer 36°. Water in river slowly rising.
21. Cloudy, indications of snow; wind N. E.; thermometer 18°.
22. Cloudy, with occasional flurries of snow; wind N.; thermometer 24°.
23. Until 9 a. m. a cold wet fog hung over the city; wind variable; thermometer 21°.
24. Foggy, damp and cold day; thermometer 25°.
25. Morning foggy; afternoon cloudy and dull; indications of snow; wind N.; thermometer 24°. Longueuil steamer still running; aquatic sports on river.
26. Morning foggy; afternoon mild and pleasant; light airs from N. and E.; thermometer 26°.
27. Morning foggy; afternoon fair; wind N. E.; thermometer 27°.
28. Morning foggy; afternoon pleasant; wind N. E. to N. W.; thermometer 23°.
29. Morning foggy; afternoon fair; wind N. E.; thermometer 24°.
30. Cloudy and dull; indications of snow; wind N. E.; thermometer 20°.
31. Cloudy; small quantities of ice gathering on shore; the river still free and Longueuil ferry running; thermometer 16°.

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#### THE HEATED AND STORM PERIODS OF 1878.

The great hail and rain storm period of the month of August, 1878, was preceded by a protracted heated term. This hot wave seems to have settled in all its severity upon the heads of the inhabitants of St. Louis, Mo., U. S. In that city the heat was intensely oppressive, and not a breath of air was stirring. Only the most important business was attended to, and the people who were thus forced upon the streets

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thoroughly appreciated the shelter which the oven-like houses afforded them. Street watering carts were put into the service as early as two a. m., and it was only with the greatest exertions that the streets were kept at all damp. The water seemed to evaporate almost instantly, so intense were the rays of the sun. The only pedestrians on many of the streets were the sweltering policemen, who hugged the narrow strip of shade which the houses afforded and walked in the slowest of their well-known slow paces. As the night drew near, the sun settled behind the Western hills with a sullen and prolonged glow, as if it were determined to keep the St. Louis people in misery as long as possible. The evening which followed was most beautiful. The moon rode majestically in a cloudless sky. To sleep, however, was impossible, —the bedrooms were like so many cremation furnaces; therefore, the unhappy residents turned out *en masse* and made themselves as comfortable as possible on the verandas and door-steps, and tried, most times in vain, to obtain even the proverbial "forty winks" of sleep, and to forget, if only for a moment, that there was such a thing as "hot" weather. From Chicago, Detroit, New York, California, Toronto, Quebec, and various other places we received the reports of hot, hot weather. In Quebec, on the 17th July, the thermometer registered 110° in the shade.

This heated term, as we have already intimated, was followed by very extensive storms; they, in most parts, ushered in by a terrific hurricane. Trees, and in many cases, houses, were bodily carried for some distance through the air. Fields that before the approach of the storm were covered with maturing fields of grain—the pride and delight of many an honest farmer,—within a few minutes presented a complete ruin, and were so prostrated with the combined efforts of the wind, rain and hail, that they looked as if an immense steam-roller had passed over them. The storm of the 4th August, 1878, was most variable in its movements. The first squall of the terrific storm at Toronto, came from a north-westerly direction, but the heaviest squall, which lasted for a few minutes only, came from the south-east with the velocity of about forty miles per hour. This storm, which will long be remembered by the inhabitants of the "Queen City of the West," as the severest that they had ever experienced, raged with unabating fury from 2:20 p. m. until about 6:10 p. m. The hail which fell in such quantities, was of unusually large size, the majority of the stones being about as large as marbles, and many were picked up which were as large as an ordinary sized hen's egg, measuring fully five inches in circumference. The damage done by the hail was very great; not many panes of glass were left entire in any building that was at all exposed. Some idea may be formed of the havoc played by the hail among the buildings when it is known that one hundred and seventeen panes of glass were broken in the De la Salle Institute, and other buildings had equally as large a number smashed. Lightning entered the belfry of St. Mary's Church, and, passing downwards forcing its way through the front of the building, and partially destroying the main entrance doors. The north dial of St. James Cathedral clock was also struck by lightning, and shattered to pieces.

The rain continued to pour down in torrents, without ceasing, for the length of four hours. Sewers speedily became filled up, and the water overflowing, soon found an entrance into the cellars and basements of adjoining houses. The rainfall is stated to be the largest known in Canada, in the same space of time. Over 3.450 inches of water fell on the 4th. This great downfall during a day, was only surpassed by that of the 14th of September, 1843, when, during a storm which lasted 22 hours, 3.455 inches of water fell. The gale, from reports received, seems to have extended over a wide region, it having visited with more or less severity, the following places: Columbus, London, Newcastle, Davenport, Auston, New Hamburgh, Bowmanville, Milton and many other points in Ontario, while it also extended eastward to Montreal, and the country surrounding Quebec.

This unprecedented storm was quickly followed by another heavy storm, but nothing in violence like the preceding one. This storm extended down to the Middle States, damaging everything in its course. In Newark alone, over \$10,000 worth of damage was done to the buildings, sewers, &c. In West Orange, N. J., damage was done to the extent of \$9,000 or \$10,000. Providence, R. I., U. S., also suffered. In Newburyport, Mass., U. S., great havoc was played among the shipping. The steamer "Frederickton," with over 1,000 passengers on board, was swept over a mile down the river before she could stop herself and reach the shore. A schooner had her foremast struck by lightning, and a large hole cut clean through the deck. Much consternation was caused by steamers being blown from their moorings, and colliding with other craft. Coming into our own country, we find that Toronto was again visited on the 6th of August, by a severe rain and hail storm, and many feared that it would be a repetition of the storm of the 4th, but fortunately such was not the case. The streets were again flooded, and householders who had been busy baling the water out of their cellars, were rewarded for their trouble by having a fresh supply rush in upon them. Smithville, Wroxeter, Ridgeway, Clifford, Beamsville, Napanee, Wallacetown, and other places, suffered more or less damage by wind and rain. Hardly a town but what some dwelling or outhouse was shattered during the passage of the Storm King. This storm was followed by another "hot wave," which was in its turn followed by the third severe rain and hail storm. From Boston, Mass., under date of August 9th, we received the reports of damage done by a severe rain storm, accompanied by thunder and lightning. At Rye Beach, N. H., the storm was reported as terrific, many gnarled oaks and sturdy elms that for over fifty years had braved the blast, having at last to succumb, and come crashing to the ground, destroying in their fall many dwelling places, and in some cases severely injuring the occupants. At Wallingford, Conn., U. S., the storm lasted but for a few minutes, but in that short space of time over forty dwellings and fifty barns were completely destroyed. Over twenty persons were killed, and almost twice that number were wounded. In order to form an idea of the strength of the tornado, we will cite one or two incidents. A horse, buggy and occupant were blown over a precipice thirty feet in depth. A youth while standing on the railroad

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track, was struck by the full force of the hurricane, and hurled to the distance of fifty feet, at which place he was afterwards picked up, almost beheaded. Mender and New Haven, Conn., were situated within the limit of the storm's track, and therefore received their share of the general destruction. At New Haven, a large church, several dwelling houses, and a \$30,000 school house were entirely demolished. From Watertown, N. Y., reports were received that trains were blockaded, bridges destroyed and telegraph poles prostrated, and irreparable damage done to the standing crops. The same storm advanced into Canada, passing through the heart of Western Canada, leaving clear and broad traces of its footsteps. On every hand the same cry was heard,—crops destroyed, buildings demolished, and in many instances people killed by the flying timbers. Nottawa, Mill Point, Norwood, Napanee, Belleville, Orillia, Frankfort, Picton, Westminster, Kingston, Barrie, Drayton, Linwood and other places were all visited, and much damage done.

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#### MOTHER SHIPTON'S PROPHECY.

The appended "Mother Shipton's Prophecy" has been copied by a correspondent of the *Globe* from a work published A. D. 1448, and now in the British Museum:—

Carriages without horses shall go,  
 And accidents fill the world with woe.  
 Around the world thoughts shall fly  
 In the twinkle of an eye.  
 Water shall yet more wonders do ;  
 How strange, yet shall be true.  
 The world upside down shall be,  
 And gold shall be found at the root of a tree.  
 Through hills man shall ride,  
 And no horse nor ass be at his side.  
 Under water men shall walk,  
 Shall ride, shall sleep, shall talk.  
 In the air men shall be seen,  
 In white, in black, in green.  
 Iron in the water shall float  
 As easy as a wooden boat.  
 Gold shall be found and shown  
 In land that is not now known.  
 Fire and water shall wonders do ;  
 England shall at last admit a Jew.  
 The world to an end shall come  
 In eighteen hundred and eighty-one.

## VENNOR'S PREDICTIONS FOR 1879.

Since last writing a similar chapter for the Almanac of 1878, six long months have again been spent in the "forest" and "by the stream," and numerous pairs of stout boots have been worn out on the "rugged rocks" composing the Laurentian Mountains. And long will this past summer be remembered by all who have, like us, wandered beyond the pale of civilization, and dwelt—not in houses, but in tents. Never can we efface from our memories those scalding, burning, thirsty days of "intense heat," nor those storms of wind and rain, and thunder and lightning, which, this year, more than all others, have hurried hundreds of human beings into the "jaws of death," and carried with them destruction everywhere. My book of newspaper clippings of such events for the past year presents a terrible record indeed, which, were I to fully or even fairly chronicle in the pages of the Almanac, would swell the book to prodigious and unsuitable proportions. The records, then, given in the foregoing pages, will show my readers the leading features of the weather of the year 1878. How often have I of late years wished that some zealous "weather prophet" had years ago arisen in the field, and collected for my benefit just such data, and prepared just such monthly records, as those herewith published; for, as the London *Times* in a recent able editorial on "weather forecasts" remarks, "A careful preservation of accurate records of the weather of the world for a few years, will enable us to arrive at approximately accurate forecasts of the weather the coming season. It is nearly certain that weather, of whatever kind, must be the natural and necessary consequence of weather which has preceded it; and extended observations could scarcely fail to tell us what to anticipate as the result of certain antecedent changes. It is not to be expected, of course, that such observations can be completely made in any short period of time. In all probability, we should first have to learn what were the facts it was most important to observe, and should find that agencies at present overlooked, or regarded as secondary, might require to be brought into the foremost place. It might doubtless happen that antecedents apparently the same would be followed by different consequences; and the investigation of the causes of such differences would ultimately become the most fruitful branch of meteorological research." This, the happiest exposition I have yet seen of the subject, I fully endorse. The writer of it evidently

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knew what he wrote about, and that is far more than do many of those who, on this side of the ocean, make the weather a medium wherewith to show forth their shallow wit. But it is the "old saw" again illustrated, viz: "Where ignorance is bliss," etc., and with this remark we pass by, once and for all, the "weather quibbler."

This brings one to the question at issue just now, as the year 1878, with rapid strides, approaches its end: What kind of weather is in store for us during the winter of 1879; and what is likely to be the character of the succeeding summer? Now, before attempting to reply to this important and exceedingly difficult question, I wish to explain to my readers the preliminary steps or mental process gone through, always, in my endeavors to arrive at correct conclusions. First and foremost, then, I examine myself respecting impressions formed intuitively from recent out-door life. These I always find lurking in some corner of my mind, and ready to put themselves into shape when called for. On some occasions one of these in particular will loom up definitely above all others, and urge strongly its claims; while at other times a number present themselves, all equally plausible and likely. In rare instances I search and find no definite impressions formed, but all alike faint and flickering, and I may state here that on such occasions I feel considerable hesitation in hazarding a forecast. My first step, then, is to write down on a sheet of paper, off hand, the main impression or impressions which naturally occur to me. This is what some have called "guessing." It may be so; but if so, it is "guessing" based upon out-door—not closet—experience, and consists of natural inferences from nature's laws. The forecast, however, thus written down, is not yet to be settled upon as the proper one; other steps are necessary. The next is to draw up from field notes an abstract of the actual weather experienced during the whole summer, noting carefully every leading feature. Has it been a year of drought, rains, heat or cold? Has it been marked by severe storms, or by calm equable weather? All are carefully noted, and averages are taken of temperature, rain fall, storms, etc. Newspaper clippings, covering the length and breadth of the Dominion, are next studied, and the various weather items sorted and systematically arranged for further reference. Now, from all these data, and guided by past experience in such matters, I write off another—a No. 2—forecast, in the preparation of which I do not allow myself to be in the slightest degree influenced by the first or No. 1 forecast. Next, setting these two forecasts aside and obliterating them entirely, if possible, from my mind, a third is prepared in the manner following: Diagrams of the weather of some 30 years are spread out and posted up on my study wall. These at a glance show the general characters of the past springs, summers and autumns, and further, the winters which have followed these. The diagram, say, of our last spring and summer, is in my hand, and the problem to be solved is embodied in the question now asked me, viz: What are our approaching autumn, winter and spring to be like? Most assuredly these will resemble in some respects some of those which have preceded them. Sitting down in my easy chair in the middle of my room, I gaze long and earnestly at that terrible array of weather charts on my wall. Friends come in and go away again, and as I have recently

heard, repeat to other friends that "Vennor occupies most of his time sitting, pipe in mouth, gazing at the wall." And so he does, and so he probably will, until the "weather problem" is solved, and he can, with the mathematician of old, cry "Eureka! Eureka?" But to return to my chair. After hours, perhaps days, of patient comparison, I find what appears to suit the case in hand, namely, one or more years that sufficiently resemble, in their leading characteristics, the one we are enquiring about. From the diagrams of these I draw out the last, or No. 3 forecast, and the hardest portion of my task is done. I now have three forecasts before me, perchance all similar, probably all diverse.

No. 1 is the leading impression intuitively formed.

No. 2 consists of natural deductions from the actual weather experienced during the past season.

No. 3 is based upon analogy and a close comparison of former weather charts.

My manner of proceeding now is different in different cases. Are all forecasts fairly similar? Then I guide myself mainly by my first or leading impression. Are two, only, alike? Then I rearrange and form these into one. Are all different? Then I depend chiefly upon that naturally deduced from the action of the past six months. In this way are my general outlines formed. Further details, which I have several times attempted during the winter, have been chiefly deduced from the comparison of the weather charts of past years, but this has been found to be an insecure basis to build upon, and I have, as I deserved to, failed repeatedly in these attempts. But I here maintain that my general outlines for the years 1875, '76, '77 and '78, have been in the main correct, although I have on several occasions spoiled the effect of these by subsequent attempts to give them in greater detail.

#### THE WINTER AND SPRING OF 1878-79.

This year my three forecasts of the weather all agree in their leading indications, and consequently out of these I have simply to construct one that will stand for all. I find before me a year signalized by intense and protracted heat, a long period of drought, and by great electrical disturbances in the form of a continuous succession of thunder and lightning storms of great severity, these last continuing up to an unusually late period. Now, from the extreme heat and drought, I deduce extreme cold, and slight precipitation for a portion of our coming winter; while from the frequent electrical disturbances I deduce open warm weather and rains. The only difficulty now, is to allot to these very opposite meteorological conditions their respective positions in the programme of the coming winter. I am of the opinion that the fore part of the winter will be severely cold with heavy snow falls. Therefore the rivers will probably close at a very much earlier date than last season. December ought to give some severe cold and heavy snow falls, particularly—as in 1876—towards the latter part of the month; and these snow storms will probably extend through a considerable portion of the United States. The early portion of

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January is likely to continue severe and give us more snow, shortly after which I look for a great lull or break in the winter, with singularly open weather and a rapid melting of the snow—possibly to bare ground again. This term will be protracted and much more extended than our usual mid-winter thaw. A portion of February and March will give us a second edition of winter with very severe weather and further heavy snow falls, thus protracting the winter season and causing a backward spring. The spring will set in wet, and is likely to be succeeded by a cool wet summer.

BUCKINGHAM, NOV. 6TH, 1878.

H. G. VENNOR.

P. S.—My impression respecting a very singular and open turn in the winter season—possibly with rains—is very prominent, but I cannot attempt to locate this with precision. It is likely, however, it will embrace a portion of January and February. It is possible also that this break, instead of being confined to one uninterrupted turn, may be distributed over the winter months as during the past summer, producing many sudden changes from warm to very cold weather.

#### VENNOR'S PREDICTION FOR THE UNITED STATES.

To the *Argus*:—

In Canada we have already had two distinct belts of wintry weather with snow and severe frosts. The first of these embraced the Lake Temiscamang region and rear parts of Pontiac and Ottawa counties. This spell set in towards the latter portion of October. The second occurred in the early part of November, and embraced a broad belt of country some miles to the southward of the first, over which snows fell abundantly. This time, along the St. Lawrence valley and in the Western States was marked by a terrible downfall of rain with, in many places, destructive floods. A third belt of wintry weather with heavy snow falls will probably occur towards the latter part of December, and it is my impression that this will take in a large portion of New York and bordering States, the snow falls possibly extending, as they did in 1876, as far south as Washington, D. C. I think the approaching winter will be exceedingly eccentric, with great and abrupt rises and falls of temperature. Consequently we may look forward to being frozen and thawed out again at the shortest possible notice.

The spring of 1879 is likely to be backward and wet, ushering in a cool and likewise rainy summer.

MONTREAL, DEC. 13, 1878.

HENRY G. VENNOR.

In another column will be found a letter from Prof. Vennor, the Canadian weather prophet, whose prognostications have hitherto attracted much attention. Many of his previous predictions have been verified with strange accuracy, and those which, by his favor, we are enabled to present to the public this morning will be watched with interest.—*Argus, Albany, N. Y., 15th Dec., 1878.*

### THE UNITED STATES SIGNAL SERVICE.

The Signal Service, United States Army, was formed for the purpose of giving protection to commerce, by warnings on all the lakes and sea coasts of the United States, to watch the river changes, to note, at seasons, the temperature affecting canal commerce, to carry telegraphic lines, by which meteorological reports may be had over regions considered impracticable for such constructions; to maintain a system of connecting stations on the sea coast; to take charge of the recognized system of voluntary meteorological observations on this continent in addition to the regular system of the Service; to secure the cooperation of observers in foreign countries; to endeavor to aid directly all the farming population in the harvesting of their crops; and finally, to put it in the power of every citizen to know each day, with reasonable accuracy, the approaching weather changes. In order to perform these duties, there are in all 171 stations in the United States, which are classed as follows: Stations making full telegraphic reports, 92; making observations and reporting, by mail, 15; printing, stations at which observations are not made, 3; special river stations, 23; stations on telegraph lines, 38. Reports are also received from seven stations in the West Indies, six of them making full telegraphic reports; and from sixteen British American stations, all but one reporting by telegraph. Before sending men to the different stations they have to undergo a course of instruction and practice at Fort Whipple, Va., U. S.

The 171 stations mentioned above are maintained at the average cost of \$424.03 each year, exclusive of the telegraphic expenses and the pay and maintenance of the men. A force of 206 men is constantly employed, 103 of whom are sergeants; 9 corporals, and 94 privates of the United States Army.

Brigadier-General A. J. Myer, U. S. A., acts as chief signal officer.

The duties of the men at each station are defined as follows:—

“At stations forwarding telegraphic reports they are required to take, put in cipher, and furnish, to be telegraphed tri-daily on each day at different fixed times, the results of the observations made at those times, and embracing in each case the readings of the barometer, of the thermometer, the winds velocity and direction, the rain gauge, the relative humidity, the character, quantity and movement of upper and lower clouds, and the condition of the weather.”

The observations being taken at Washington meantime come therefore earlier at some points and later at others, making the observations simultaneous all over the country.

Besides the duties enumerated above, there are three observations to be taken each day at the hours of 7 a.m., 2 p.m., and 9 p.m. At noon each day an observation is taken to notice any instrumental changes which may require to be reported. At stations at which cautionary signals are displayed, an observer must be constantly on hand to receive the order and show the signal which may be ordered.

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At the river stations a record of the temperature and depth is made, and reported at 3 p.m. each day. In addition to this, each station has forwarded to the central office in New York city, a weekly and monthly report containing a digest of the observations taken.

The head office, at which General Meyer is to be found, occupies the top flat of the immense building of the Equitable Life Assurance Company, from which lofty height an unobstructed view of the city and surroundings can be had. It also affords a conspicuous place for the display of the cautionary signal, which can be seen quite plainly from all parts of the harbor. The lantern, displaying a red light, is 195 feet above the sea level; the flag-rig, with a black centre, floats from an elevation of 235 feet.

The instrument room is situated under the lantern, and built with open apertures, so that the air has free access. In this room are placed the standard, the maximum and minimum, with the wet and dry bulb thermometers. The maximum and minimum thermometers are so arranged, by simple contrivances, that they register the highest and lowest readings.

The wet and dry bulb thermometers serve to mark the relative humidity of the air; thus on one occasion the dry bulb marked  $82^{\circ}$  and the wet  $70^{\circ}$ , a relative humidity of 52 per cent.

Placed out upon the roof is the funnel-shaped rain gauge, the wind vane, the anemometer, by which is determined the velocity of the wind. By an ingenious contrivance this instrument is self-registering.

There is in the New York Office a rare and splendid instrument in the shape of a self-registering barometer. The cylinders are made to revolve by clockwork. On one is given the register of the changes for a day, and on the other for a period of fifteen days.

In this, as in the anemometer, the connections are made by electricity.

All the telegraphic reports of the Service are made in cipher, in order to save time and trouble, as well as to insure accuracy.

### POKING FUN AT VENNOR.

Many journalists, whose publications were not usually filled to overflowing with interesting news, and who were actually becoming rusty for something to write about, hailed with delight the advent of Mr. Vennor to the front in the role of "weather prophet."

As long as the weather followed the course that had been mapped out for it by Mr. Vennor, the newspaper men unanimously declared that he was a "trump," and that all along they had a notion that any observant man might with accuracy speak as to the weather probabilities for days, weeks, or even months to come. Of course they knew just on what basis he built his calculations, &c., &c. As long as Mr. Vennor's star was in the ascendency, numerous journalistic satellites were found who were only too willing to borrow light from the "weather prophet," and some of them issued prophecies of their own which they declared were "Vennorisms." The scene changed, how-

ever, as soon as "Probs" made a miss in his weather calculations. Some of the newspaper men howled with exultation, and with their proverbial "Just as I expected," and "I told you so," would lead an ordinary reader to suppose that they had been patiently waiting for the downfall, and that they were so open and just that they had refrained from saying anything that might tend to hasten the disaster. The newspapers teemed with spicy items relating to "Poor Vennor." Some of these assumed the form of a death notice, which notified the public of the death "of the reputation for accuracy of one of Canada's greatest guessors." Others suggested that he should send in his resignation as weather prognosticator, and that he should be "superannuated unless he endeavored to tell something about something that he knows something about, or forever hide his diminished head under a snowshoe." When it was seen that Mr. Vennor had the field to himself, many "false" prophets arose, and slung out their predictions without the slightest regard as to the consequences. When *the* prophet predicted warm weather, the opposition parties would beg to differ, and in return would give as their opinion that we should experience a decidedly cold dip. Then how happy were the plumbers, coal dealers, and Vennor's opponents. No matter whether we had snow, hail, rain, or sunshine, some individual claimed this as "his" weather.

Many varied punning remarks were made on the weather manufactured by "the clerk of the weather." The *Pembroke Standard*, under date of January 15th, stated that "the weather is most remarkable, but that it could not be looked upon as extraordinary, seeing that it is *Vennor*-able; we must say that we do not *Vennor*-ate it or consider it at all *prophet*-able." The *Quebec Telegraph*, after long and careful consideration, stated that "as old Boreas and his prophet Vennor have quarrelled, the former is in search of a new hand. He officially declares through our columns that he never authorized Mr. Vennor to say such naughty things of the weather as he has done. The old god is extremely put out with the conduct of his agent and says there must be a cessation of belief in unguarded prognostications, and he furthermore warns certain venturesome people that they are likely to form the acquaintance of his relative, Neptune, if they persist in driving heavy loads to the Isle of Bacchus." The *Orillia Times* of 28th February last, speaks in the tone of a man who has had his patience sorely tried, and who wishes his offender to understand that "thus far shalt thou go and no farther," and also that "it is the last straw that breaks the camel's back." After having placed unlimited confidence and abiding faith in the prognostications of Vennor, they at first refused to go back on the "old man," but in the words of the *Times*, "The end has come; our idol has been shattered; never more will we say a good word for him. He is an unmitigated fraud, a monstrous humbug; an abominable cheat; a shameless impostor; he should be suspended from the branch of a dead pine, bareheaded and barefooted, with the breezes of all the cold dips of the next hundred years playing about him in their concentrated intensity." While hot-headed parties on one side were hurling scorching anathemas upon the "downfallen" weather prophet, other parties advanced to him with bended knee, (figuratively speaking) and with prayers and entreaties tried to induce old Boreas' agent to

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give them just a little more frost. Some of these prayers appeared in poetical form, of which the following is a sample :

"Now can't you please send us a keen, frosty spell?  
Ora week or so's snow would perhaps do as well.  
We sigh for some skating—and then only think!  
They'll elect you a member for life at the rink!  
Oh Vennor, dear Vennor, pray try and arrange  
For a month or two's sleighing by way of a change."

Some of the persecuting ones in their excitement grew quite "slangy," but perhaps they were slightly "riled," for one person after reading Vennor's prophecies of a heavy snow-storm, prepared in the following way for the coming heaps of snow :—

A good shovel I got—  
As usual it was on tick—  
And prepared large heaps of snow  
To coop off very quick.

But the snow never came to his locality, whereupon he turns around and says :—

"Vennor, go take a rest  
And wipe off your chin;  
Then pull down your vest  
And don't fool us again."

One party, whose deep-rooted faith in Vennor had been sadly shaken by some non-fulfillment of a snow-storm, and a long extended visit of Jack Frost, thus implores the seer of the future to rise and explain himself : "Rise, oh rise, from your lethargic slumbers, and give us another batch of your prophetic visions. Give us something that will make Rome howl; something that will leave an impression on the mind and cause us to think that though man is prone to error, you perfectly understand your business."

But in "poking fun at Vennor," some of the newspapers overreached themselves and made most glaring mistakes, which placed themselves in the ridiculous place they intended Vennor to occupy. Most prominent among mistakes of that kind was that made by the *Toronto Globe*. After reading over Vennor's Almanac, the *Globe* decided that it would be advisable to "sit" upon him, so to speak, in order to "nip in the bud" the circulation of false prophecies such as were contained in the Almanac. In order to ridicule Vennor as much as possible, they occupied much of their valuable space in publishing a number of extracts from the Almanac, and in an accompanying editorial they make fun of the prophet's reckonings. The *Globe*, however, was soon made aware of the fact that the quotations had been taken from Mr. Vennor's record of the year previous, instead of from his predictions of the weather to come. What made the mistake more glaring, was that on the pages from which the extracts were taken there was this heading in large type "weather of corresponding dates of last year."

The following instance is a pattern of the criticism Mr. Vennor is generally favored with :—(*A predicted "cold snap."*)

#### THE WEATHER.

"We will shortly have the cold relapse of weather anticipated by me, and probably with frosts. August will give us another hot term,

a shade hotter than July has been, and this will be followed by a most remarkable cold relapse, possibly with a flurry of snow. Rains will commence with September, and the autumn will be wet. We shall have early falls of snow and a very wintry December."—*Ottawa Citizen, July 7th, 1878.*

(*Premature Criticism.*)

VENNOR ASTRAY.—About this section of the month, Mr. Vennor predicted "a cold spell," but the thermometer has not let down much yet, mercury dancing between 80 and 100 degrees daily. But perhaps Henry George is a joker. "I-c-e" would be a cool spell, wouldn't it?—*Ottawa Free Press, 17th July.*

(*A few days later.*)

"THEN AND NOW."

THE BEAUTIFUL CONTRAST.

There's no use talking, if some one doesn't send Vennor to the island of Cyprus, or some other far off land, to use a delicate expression, he'll have to be "pulverized." We never had any of this outrageously fickle weather until Vennor commenced his meteorological observations, and the sooner he's "sat on" the better for the nation. First we have the "Hot Wave," then the "Cold Dip," and they are both trotted out without the slightest regard to health.

THEN :

On Friday, the thermometer registered between 90° and 96° in the shade, and people lemonaded, ginger beered, ice creamed and ginger aled. They discarded all superfluous clothing, hugged the shady side of the street, made their wills, and every moment expected a sunstroke, as the perspiration gathered on their brows like rain drops on a window frame. It was then they cried "isn't it hot?" But

NOW

the scene has changed, and once more Vennor is with us. The "cold dip" has come, and the thermometer has fallen to 65°. The clouds look as if they were charged with snow; the overcoat is carefully brushed, and the underclothing again sees the light of day. Temperance men take their — hot, and the lager beer tap is lonesome. Mr. Science, cut this thing short, or a suffering community will soon "kick." Yes, knock you as high as Gilroy's kite.—*Ottawa Citizen.*

ITEMS OF INTEREST, SEASON 1878.

THE LAST SNOWFALL of the spring of 1878, occurred on the 14th of May. The earliest recorded for the fall of the same year, fell at Battersea, Ont., on the 20th of August; the second on the Upper Gatineau, on the 17th of September, and a third flurry to the rear of Quebec, a few days later. Thus, between the spring and autumn snowfalls, there were but two months and twenty-eight days.

THE ICE ONLY TOOK firmly opposite Montreal on the night of the 31st of January, and broke up again on the 18th of March.

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NAVIGATION was opened on all the lakes towards the latter part of May, 1878.

SWALLOWS ARRIVED at Montreal in considerable numbers, on the 10th day of April, twelve days earlier than in 1877. The "Sarmatian," the first steamship of the season, arrived in Montreal on the 30th of April.

THE COLLINGWOOD harbor was not frozen over during the entire winter. This was never known before.

GRASSHOPPERS were seen at Gananoque, Ont., and at other points west, on March 22nd.

PRAIRIE fires raged around Winnipeg, March 20th.

THE HEAVIEST SNOWFALL of the winter of 1878, commenced on the morning of Tuesday the 24th of March, and continued through the whole day, making the really first good sleighing of the winter. Previous to this, there had been spring weather for upwards of a month. Carriages had been out for a long time, and there had been dust in abundance.

THE HARBOR AT MONTREAL was clear and ready for vessels on the 26th of March, and boats were daily expected up from Boucherville. The first boat up in the spring of 1877, arrived on the 17th of April, and this was ten days earlier than the first arrival of the previous year (1876), which occurred on the 26th of April.

THERE WAS A HEAVY SNOWSTORM in England, on and prior to the 28th of March. A cablegram says, "Four inches of snow has fallen in the Midland Counties, and snow is still falling (28th). Considerable damage is likely to result in consequence of the forward state of vegetation after two months very fine weather." A heavy snow-storm experienced in Canada, on the 22nd of March, 1876, likewise reached Great Britain.

THE FIRST STEAMBOAT of the season 1878, arrived in the harbor of Montreal on the 29th of March. This was the Longueuil ferry boat "Montarville," from Boucherville. This is the earliest arrival on record at the Harbor Master's office, which goes back to 1854, the nearest to it being on April the 4th, in the year 1859. People were still, however, at this date, crossing on the ice at Three Rivers and other points between Montreal and Quebec. The Montreal *Herald* of the 29th of March 1825, records the arrival of two schooners from Boucherville four days previously.

THERE WAS A SEVERE snow storm at and around St. John, N. B., on the 30th of March, when upwards of one foot of snow fell. This was the heaviest storm of the whole winter there.

ON THE 13TH OF SEPTEMBER, Toronto, and the other places west, were visited by tremendous rain storms, which caused great destruction of property and loss of life.

SNOW FELL in the townships of Hull and Wakefield, in Ottawa County, as early as the 26th of September, at which time the weather was extremely cold for the season.

THE STREET CARS commenced running in Montreal on the 20th of March, but were laid up for a few days again after the snow storm of the 24th.

FERRY commenced running at Belleville on the 12th of March.

NAVIGATION OPEN on Lake Superior on the 19th of March ; a tug arrived at Collingwood, and one left.

STEAMBOAT LINES to Troy and Albany commenced running on the 13th of March. This is said to be the earliest opening of Hudson River navigation in fifteen years.

STEAMER "CHAMBLY" began her regular trips between Montreal and Sorel on the 4th of April.

PLOUGHING commenced in North Renfrew on the 6th of April. Earliest on record.

NAVIGATION virtually closed November 28th, but no ice in river.

GOOD SLEIGHING early in November in the Upper Ottawa district.

BRIEF SLEIGHING at Fredrickton, N. B., early in November.

SLUSHY WET WEATHER every where between the 17th and 28th of November.

TREMENDOUS RAINS at many points, 27th November.

ELEVEN DEGREES BELOW ZERO reported from Fort Pelley, end of November.

DECEMBER ENTERED with rain and sleet.

FAIR SNOWFALL at Montreal on 4th December ; but no sleighing.

GOOD SLEIGHING around Pembroke 4th of December.

MIRAMICHI AND ST. JOHN Rivers, N. B., frozen over, Dec. 2nd.

GOOD SLEIGHING at Winnipeg on December 7th.

BAY OF QUINTE frozen over by the 7th of December ; three weeks earlier than last year.

WINTER FAIRLY set in at Halifax by the 7th of December.

DEEP SNOWS through the country watered by the Colonge and Black rivers in Pontiac County, during first day of December.

HEAVY SNOW storm with drifts, at Quebec and Belleville on night of December 9th.

GREAT RAIN AND WIND storms, with snow at many points, on 10th December, causing great destruction of property and loss of life.

ALL SNOWS SWEEPED away by rains at Montreal, on December 10th,

SLEIGHING GOOD at Quebec and Belleville since the 10th of December.

TEN DEGREES below zero at Winnipeg on the night of the 11th of December.

HEAVY SNOW storm raging in Missouri, Iowa and Kansas, on December 12th and 13th.

BAY AT TORONTO frozen over on the 18th of December.

CROSSING THE OTTAWA River at many points, on the 17th of December

### HERSCHELL'S WEATHER TABLE.

Those who place implicit faith in the moon as a controller of weather will find the following "Perpetual weather table constructed by the celebrated Dr. Herschell, based upon a consideration of the at-

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traction of the sun and moon, of interest : It is confirmed by the experience of many years' observation, and will follow the moon's entrance into any of her quarters. Though calculated for England, it will be found applicable for other localities. If the moon changes at 12 o'clock M., the weather immediately afterward will be very rainy, if in summer, and there will be rain and snow in winter. If between 2 and 4 P.M., changeable in summer, fair and mild in winter. Between 4 and 6 o'clock P.M., fair in both summer and winter. Between 6 and 10 o'clock A.M., in summer fair, if the wind is north-east ; rainy, if south or south-west. In winter fair and frosty, if the wind is north or north-west ; rainy if south or south-west. Between 10 and 12 o'clock A.M., fair in summer and frosty in winter. Between 12 at night and 2 o'clock A.M., fair in summer and frosty in winter, unless the wind is from the south or south-west. Between 2 and 4 o'clock A.M., cold and showery in summer, and snow and storm in winter. Between 4 and 6 o'clock A.M., rainy both in winter and summer. Between 6 and 8 o'clock A.M., wind and rain in summer, and stormy in winter. Between 8 and 10 o'clock A.M., changeable in summer ; rain with a westerly and snow with an easterly wind in winter. Between 10 and 12 o'clock A.M., showery in summer, and cold and windy in winter."

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#### WEATHER WISDOM.

The laws of storms, up to a certain point, have come to be pretty well understood, but there is yet no science of the weather, any more than there is of human nature. There is about as much room for speculation in the one case as in the other. The causes and agencies are subtle and obscure, and we shall, perhaps, have the metaphysics of the subjects before we have the physics.

But as there are persons who can read human nature pretty well, so there are those who can read the weather.

It is a masculine subject, and quite beyond the province of woman. Ask those who spend their time in the open air—the farmer, the sailor, the soldier, the walker ; ask the birds, the beasts, the tree toads ; they know, if they will only tell. The farmer diagnoses the weather daily, as the doctor a patient ; he feels the pulse of the wind, he knows when the clouds have a scurfy tongue, or when the cuticle of the day is feverish and dry or soft and moist. Certain days he calls "weather-breeders," and they are usually the fairest days in the calendar—all sun and sky. They are too fair ; they are suspiciously so. They come in the fall and spring, and always mean mischief. When a day of almost unnatural brightness and clearness in either of these seasons follows immediately after a storm, it is a sure indication that another storm follows close—follows to-morrow. In keeping with this fact is the rule of the barometer, that if the mercury rises very high, the fair weather will not last. It is a high peak that indicates a corresponding depression close at hand. I observed one of these angelic mischief-makers the past October. The second day after a heavy fall of rain was the fairest of the fair—not a speck or film in all the round of the sky.

Where have all the clouds and vapors gone to so suddenly? I thought, but knew they were plotting together some where behind the horizon. The sky was a deep ultramarine blue; the air so transparent that distant objects seemed near, and the afternoon shadows were sharp and clear. At night the stars were unusually numerous and bright (a sure sign of an approaching storm). The sky was laid bare, as the tidal wave empties the shore of its water before it heaps it up upon it. A violent storm of wind and rain, the next day, followed this delusive brightness. So the weather, like human nature, may be suspiciously transparent. A saintly day may undo you. A few clouds do not mean rain; but when there are absolutely none, when even the haze and filmy vapors are suppressed or held back, then beware.

Then, the weather-wise know there are two kinds of clouds, rain-clouds and wind-clouds, and that the latter are always the most portentous. In summer, they are black as night; they look as if they would blot out the very earth. They raise a great dust, and set things flying and slamming for a moment, and that is all. They are the veritable wind-bags of Æolus. There is something in the look of rain-clouds that is unmistakable,—a firm, gray, tightly woven look that makes you remember your umbrella. Not too high, nor too low, not black, nor blue, but the form and hue of wet, unbleached linen. You see the river water in them; they are heavy laden, and move slow. Sometimes they develop what are called "mares' tails,"—small cloud-forms here and there against a heavy background, that look like the stroke of a brush, or the streaming tail of a charger. Sometimes a few under-clouds will be combed and groomed by the winds or other meteoric agencies at work, as if for a race. I have seen coming storms develop well-defined vertebra,—a long backbone of cloud, with the articulations and processes clearly marked. Any of these forms changing, growing, denote rain, because they show unusual agencies at work. The storm is brewing and fermenting. "See those cowlicks," said an old farmer, pointing to certain patches on the clouds; "they mean rain." Another time, he said the clouds were "making bag," had growing udders, and that it would rain before night, as it did. This reminded me that the Orientals speak of the clouds as cows which the winds herd and milk.

In the winter, we see the sun wading in snow. The morning has perhaps been clear, but in the afternoon a bank of gray filmy or cirrus cloud meets him in the west, and he sinks deeper and deeper into it, till, at his going down, his muffled beams are entirely hidden. Then, on the morrow, not

"Announced by all the trumpets of the sky,"

but silent as night, the white legions are here.

The old signs seldom fail,—a red and angry sunrise, or flushed clouds at evening. Many a hope of rain have I seen dashed by a painted sky at sunset. There is truth in the old couplet, too:

"If it rains before seven,  
It will clear before eleven."

Morning rains are usually short-lived. Better wait till ten o'clock. When the clouds are chilled, they turn blue and rise up.

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When the fog leaves the mountains, reaching upward, as if afraid of being left behind, the fair weather is near.

Shoddy clouds are of little account, and soon fall to pieces. Have your clouds show a good strong fibre and have them lined,—not with silver, but with other clouds of a finer texture,—and have them wadded. It wants two or three thicknesses to get up a good rain. Especially, unless you have that cloud-mother, that dim, filmy, nebulous mass that has its root in the higher regions of the air, and is the source and backing of all storms,—your rain will be light indeed.—*John Burroughs, in Scribner's Monthly.*

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REMINISCENCE OF 1855—A TERRIBLE SCENE.

The perils attendant on crossing the river have sunk into insignificance compared with former dangers. Victoria Bridge and the Grand Trunk Railway Company afford New York the much required facilities since the completion of the former great work at the close of 1859. We give the following account of an affair which caused much excitement in Montreal when it occurred. It was the 23rd of April (St. George's Day), and the severity of the winter had rendered the clearing of the harbor somewhat a difficult matter for the spring sun and mild temperature. Passengers for New York in those days crossed the river in ferry-boats in summer and on the ice in winter. About thirty persons, including many ladies, set out to cross on this particular day in April, 1855. Among those whose names are known to us were Dr. Reddy, his wife and infant, with their servant; Mr. Henry Prince, well known in musical circles; Thomas Hood, now Alderman, representing the St. Antoine Ward in the Council; Mr. Silverman, Dr. Crawford, son of the eminent surgeon of that name, and a Mr. Sanderson, with others whose names are not now known to us. The ice was not very good as may be supposed for such a time of the year, and the party were obliged to walk the distance, under the direction of a stalwart voyageur, whose assistants dragged the luggage along in large sleds. It was a bright, warm day, the sky clear and the sun's heat almost unbearable, while the glare of the ice and snow of the river reflected its rays with blinding effect. The party set out for Longueuil, the voyageur leading and probing the ice with a long pole, armed at the end with an iron hook, while he divided his time between masticating tobacco and assuring his followers that there was no danger. Nearly every one had commenced to believe him, and the centre of the river had been reached, when loud, gunlike reports from the direction of the site of Victoria Bridge startled the party. Every one grew alarmed. Still the voyageur assured them there was no danger. But the pace of each quickened, and there was fear at the heartstrings which no one cared to acknowledge to his neighbor. Not a word was said, and in the stillness that followed a cessation of conversation the noise of the breaking ice grew louder. Suddenly the party of travellers became aware that the ice which alone intervened between them and eternity, was on the move. Slowly, trembling at first, but certainly, the mass commenced to move downward, and then, one after another, immense

masses were breaking up and piling one over the other. The party acted as if paralyzed for a moment. Suddenly Alderman Hood, who was picking his way along, nearly disappeared through the honey-combed ice, his arms spreading out instinctively preventing him from being carried off. The ladies shrieked; there was a little scattering of the party; Ald. Hood managed to scramble out, and then it was every man for himself and the ladies. The latter, cool and trusting to the advice of the gentlemen, pressed on towards Longueuil, and piece after piece of ice was abandoned as other huge fragments would tower over the heads of the unfortunate travellers, threatening to engulf them in the chaos into which the ice was being involved. Many mishaps occurred, narrow and providential escapes happened, which the spectator had barely time to notice, ere he was himself called to a sense of impending danger. On towards Longueuil went the travellers, struggling bravely for dear life. But a new danger threatened. The current set from Longueuil to the opposite shore, and finally clear water imposed a barrier between the now completely terrified people and the Longueuil shore. But there was not much time for lamentations. The constant breaking up of the ice on which they stood required vigilance, and the ever-moving ice caused the development of a muscular activity on the part of persons who must have been surprised in looking back to the scene.

If there was activity and terror among the ice-beleagured party, there was a corresponding feeling of excitement among the friends of persons on shore. The relatives of those who had a few moments before parted with their loved ones, realized to the fullest extent the peril to which the shoving ice exposed them; while, more terrible to think of still, they knew that no human help could reach their endangered friends from the Montreal side, and the groups of scores which in those days were always to be found at the river banks, increased to hundreds. Glasses were levelled, and the progress of the party watched breathlessly. When a man fell into the water, no one saw him pulled out again in the momentary excitement, and rumors were afloat before long that more than half of the thirty or thirty-five persons had been either drowned or crushed in the ice press.

On the Longueuil side alone could help reach the party, and every exertion was made to reach the spot. Ill-conditioned canoes and skiffs were launched and manned, and their progress watched with intense interest. It was a matter of no ordinary difficulty to pull a boat through the water of the bay, covered with floating ice, and strenuous as were the exertions of the boatmen, to the endangered persons on the ice their speed seemed slothful indeed. To those on the ice the suspense was terrible. Already several men had given up the struggle, and drenched to the skin from repeated immersions, refused to make further exertions. Mr. Sanderson became so terror-stricken at the surroundings that he became perfectly helpless, and in a few moments took a fit from which he gradually sank until he died. With his dead body, the almost inanimate forms of others who had been with difficulty rescued from the water, the scene when the first boat from Longueuil reached the ice field, was indeed appalling.

At last the prayed for boats arrived, and the dangerous work of embarking commenced. The ladies first, and then the helpless and half-drowned men, with Mr. Sanderson's body, were safely placed in the dug-out, and the boat commenced the return trip, laden almost to her gunwale. Alderman Hood was the last man off the ice, and had a swim for life before he managed to embark. The passengers safe, baggage was next looked up, and save a trunk belonging to Dr. Reddy and an overcoat of Alderman Hood's, all were saved, Mr. Sanderson's death being the only serious casualty recorded. This, after spending about an hour on the breaking ice—jumping from one piece to the other as each mass swayed and tossed in the flood.—*Montreal Witness.*

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FIRST ARRIVALS IN THE PORT OF MONTREAL.

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1859.....	Muskkrat & Grand Trunk, No.1	3rd April.
1860.....	Fashion .....	9th "
1861.....	L'Aigle .....	24th "
1862.....	Welland.....	23rd "
1863.....	Iron Duke.....	24th "
1864.....	Iron Duke.....	13th "
1865.....	John Brown.....	10th "
1866.....	L'Etoile.....	21st "
1867.....	Terrebonne..	23rd "
1868.....	L'Aigle .....	17th "
1869.....	L'Aigle.....	25th "
1870.....	A Towboat.....	18th "
1871.....	Plover.....	8th "
1872.....	Longueuil.....	30th "
1873.....	William.....	25th "
1874.....	Laprairie .....	25th "
1875.....	A. P. Jodoin .....	3rd May.
1876.....	Berthier and Chambly.....	1st "
1877.....	W. C. Francis.....	17th April.
1878.....	Montarville.....	29th March.

On March 25th, 1825, a steamer arrived in Montreal from Boucherville.

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NOVEL BAROMETERS.

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There are two animated barometers in Sacramento, Cal., that have proved trustworthy, even where artificial instruments have failed. One of them is a catfish, which is kept in a water-trough. No matter how clear the weather may be, this fish always, before a storm, makes it a point to swim about with his head below the water and his tail above. When the rain begins to fall he goes out of sight until the weather changes. The other is a couple of frogs under the floor of the police office, which have never yet been seen by any of the officers, but who presage a storm several hours in advance of the barometrical indications, by a series of peculiarly discordant croaks. No matter how clear and bright the night, the police officers then make it a point to prepare for a storm, and the warning has never proved in vain.

## THE YEAR WITHOUT A SUMMER.

An aged resident of Hartford remembers that the winter of 1829-30 surpassed this in mildness; farmers ploughed every month in the season, and no snow fell till February 2. The winter was followed, however, by a cold, backward spring, with a snow storm in May, which killed the returning swallows.

As an offset to the above story, one of the old residents of Derby tells us the year 1816 is what is known as the "year without a summer." Old New England farmers refer to it as "eighteen hundred and starved to death." January was mild, as was also February, with the exception of a few days. The greater part of March was cold and boisterous. April opened warm, but grew colder as it advanced, ending with snow and ice, and winter cold. In May ice formed half an inch thick, buds and flowers were frozen, and corn was killed. Frost, ice and snow were common in June. Almost everything green was killed, and fruit was nearly all destroyed. Snow fell to the depth of three inches in New York and Massachusetts, and ten inches in Maine. July was accompanied with frost and ice. On the 5th ice was formed of the thickness of window glass, in New York, New England and parts of Pennsylvania, and corn was nearly all destroyed in certain sections. In August ice formed half an inch thick. Corn was so frozen that a great deal was cut down and dried for fodder. Very little ripened in the New England and Middle States. Farmers were obliged to pay \$4 to \$5 a bushel for corn of 1815 for the next spring's planting. The first two weeks of September were mild; the balance of the month was cold, with frost, and ice formed a quarter of an inch thick. October was more than usually cold, with frost and ice. November was cold and blustering, with snow enough for good sleighing. December was quite mild and comfortable.—*Windermere (Conn.) Weekly Forum, 1878.*

**DRINKS IN HOT WEATHER.**—An interesting correspondence is going on in the London daily and agricultural papers relating to "drinks in hot weather." An article by Dr. Parker, called "Personal Care of Health," is quoted, in which the writer says, "If you wish to keep good health in old age, never touch spirits, and abstain from beer altogether." The best drink, writes Mr. J. G. Sproston, for this hot weather is thin oatmeal and water, with a little sugar. Rice water, as used in India, made palatable, is also recommended for its cooling and nutritious qualities. One ounce of coffee and half an ounce of sugar, boiled in two quarts of water and cooled, is said to be a very thirst-quenching drink.

**THE PLACE WHERE THE SUN JUMPS A DAY.**—Chatham Island, lying off the coast of New Zealand, in the South Pacific Ocean, is peculiarly situated, as it is one of the habitable points of the globe where the day of the week changes. It is just in the line of demarcation between dates. There, at high twelve, Sunday noon ceases, and instantly Monday meridian begins. Sunday comes into the man's house on the East side, and becomes Monday by the time it

passes out the Western door. A man sits down to his noonday dinner on Sunday, and it is Monday noon before he finishes it. There Saturday is Sunday, and Sunday is Monday, and Monday becomes suddenly transferred into Tuesday. It is a good place for people who have lost much time, for, by taking an early start, they can always get a day ahead on Chatham Island. It took philosophers and geographers a long time to settle the puzzle of where Sunday noon ceased and Monday noon began, with a man travelling West fifteen degrees an hour, or with the sun. It is to be hoped that the next English Arctic Expedition will settle the other mooted question: "Where will one stop who travels Northwest continually?"—*Christian at Work*

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### PHOSPHATE OF LIME.

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The recent numerous discoveries in this neighborhood of deposits of phosphate of lime have undoubtedly associated the Ottawa Valley with one more important source of national wealth and the means of establishing an industry of considerable extent. But there is some reason to apprehend that our people may not fully realize the greatness of their opportunity, and that, instead of embarking upon the manufacture of an article of very considerable merchantable value and demand, they will be content to take the shortest, but not the most profitable, road to trade—that of exporting the raw material. This, to a great extent, it is now generally admitted, has been the mistake committed in relation to the products of our immense pine forests. Since operations were commenced in these forests it is probable that fully two-thirds of the products has been in the form of square timber; and there can be no doubt but that the production of this has been attended with incalculable waste. It is true that this may have been, at times, the most convenient form of timber to suit the market, but, in suiting the market, the forests have to a great extent been denuded, and from the exportation of the raw material the country has not derived ail that benefit which ought to have resulted from such valuable natural resources. And so, too, but on a smaller scale, has the country been robbed by the exportation of the raw material from valuable deposits of iron ore. This material, as is well known, has been exported in very considerable quantities to the United States, in which country it has been mixed with leaner ores, made into iron of the best quality, and portions of this iron have been exported to Canada. In this way it is quite obvious that Canadians have been deprived of that labor which is involved in the manufacture of iron and the production of fuel, and the raw material sent away to benefit workmen in a foreign country. Now it is well known that the phosphate of lime, as taken from the geological strata, requires submission to a process of preparation before it can be placed in the market as a fertilizer, and in this process of preparation there is a considerable amount of labor required. The demand for super-phosphate as an artificial fertilizer is now very great, and the attention of farmers in every civilized country of the world is being given more and more to the phosphate. Indeed,

there is good reason to believe that the demand for super-phosphate will be fully equal to every source of supply and that the total volume of the trade in the article will be very large. Why then should not the people of Ottawa Valley have the largest benefit that can be derived from the deposits of phosphate of lime? Why export the raw material, if, as we believe to be possible, the fertilizer can be prepared in the neighborhood?

### DIPHTHERIA.

Diphtheria is not a new disease, as it has been traced to the time of Hippocrates, and in the second century of the Christian era it was fully described, considering the amount of knowledge possessed by Aretreus. He gave the name *Ulcus Syriacum* and *Malum Egyptiacum*. From the time of this author up to the time of Hecker, in 1337, it is occasionally mentioned. Hecker, however, fully described the appearances of the disease as it occurred during a very virulent epidemic in Holland in 1337. It also occurred as an epidemic in the same country in 1657. About the middle of the last century it prevailed in Paris, and in some of the marshy parts of England. Dr. Bard was the first one who described the disease on this continent, during an epidemic of it in 1771.

Epidemics were as common in olden times as they are now, notwithstanding the less crowded population of those days and the absence of the feverish excitement in the race of life, the only difference being that they were less noticed and hardly investigated. During the present time, at least in Europe, each government appoints its own medical investigators, and so also do the medical societies, at the approach of any epidemic, and reports are made for the benefit of the public and the medical profession.

As regards the prevalence of diphtheria in the country parts of the Dominion, most farmers' houses are not in any better sanitary condition than the city ones, and of this I can speak from actual experience. The ceilings are too low, overheated in winter, and the cellars are hardly ever ventilated, and frequently are used as root-houses.

I may as well mention that some of our wholesale warehouses require examining. Last summer I had two cases of typhoid fever, the cause of which was clearly traced to defective closets.

Your correspondent is quite correct in stating that bad drainage is not the only cause of diphtheria, as there are continually cases occurring where we can give no cause whatever.

As regards coal oil and the coal stoves I entirely agree with him. They are sometimes productive of a great deal of bad health. During the winter I was called upon in the night to perform a very serious operation, outside of the city limits. Assistants held three lamps, and the vapor from them caused such a feeling of deadly sickness that candles had to be used instead.

From the comparing of notes with the different medical men, I do not think I exaggerated the condition of matters as they existed two weeks ago."—*Correspondence Witness, April 13th, 1877.*

## ANSWERS TO CORRESPONDENTS.

(No notice is taken of *Anonymous Communications*).

- J. W.—Thanks for your kind interest in Almanac. In the present issue you will find much of the information you ask.
- T. S. B.—My monthly records of past weather are the most important part of the Almanac. When you have about ten years collected, you will be able to forecast the weather tolerably correctly for yourself.
- H.—“The weather” is not my special study, but rather my recreation.
- J. S.—Wolves are very abundant through portions of Ottawa County, and I have seen them recently in the rear part of Hull township and in Wakefield.
- E. G. L.—An earthquake cannot be predicted. But in countries where they are not of an uncommon occurrence, the months in which they are likely to occur may be pointed out.
- W. W.—Torricelli was the friend and pupil of Galileo, and may be said to be the inventor of the barometer.
- TURNER.—The principles upon which my general forecasts are based, are given in the present issue.
- W. H.—Yes, I firmly believe that we shall yet be able to form fairly accurate forecasts of approaching seasons.
- R. T.—All three years, 1875, 1876 and 1877, have been exceptional. The present winter 1878-79, is somewhat as of old.
- J. H.—There were decided snow flurries during August, 1878, in several parts of Pontiac and Ottawa Counties.
- M. S.—You need not attempt weather forecasts unless you have lived an out-door life, and have observed the weather for at least ten years.
- S. B.—“Fools laugh at their own folly.” “Where ignorance is bliss,” etc.
- M. B.—The letters you refer to do me no harm, and, more fortunately, cannot affect the weather. “Let those laugh who win.”
- A. McI.—Do not bother about instruments. Observe and note. Therein lies the secret of success.
- S. McN.—The main object of my Almanac is to gather in additional data, and to induce others to record their observations.
- C. W.—The climate of Canada is decidedly moderating, and the winters in Great Britain are becoming more rigorous.
- L. R.—My forecast for the winter of 1875-76 was the first one published.
- A. S. C.—“Cold dips” generally moderate to heavy snow-falls.
- F. J. W.—Send me the minerals and I will name them for you.
- J. W. D.—I cannot tell you the position of the planets when I was born. Did not begin the study of astronomy for some years later.
- W. McM.—Misses do not surprise me. Surprised indeed should I be did they not occur.
- A. L. S.—There are no such things as “true mineral rods”; but *bogus* mineral hunters with *bogus* rods are frequently met with. A thorough knowledge of practical geology is the best rod to handle.

W. K.—*Apatite* is another term for Phosphate of Lime. It is derived from the Greek *apatao*—to deceive; and assuredly it is a mineral that deceives many. It is of every color and shade, but almost invariably of the same specific gravity and hardness.

J. H. S.—Many thanks for your records. Send me more. I will send you a specimen diagram for your guidance.

A. P. V.—Your notes are very interesting. Some of them are embodied in the present issue. I think the weather and epidemics are and ever have been closely connected.

R. W.—I do not agree with you on the moon question. She has no more connection with the weather changes than have politics.

NOTE.—Correspondents who do not see their questions answered in the foregoing list, will find the information they request in the body of the Almanac and in connection with the predictions and monthly records.

H. G. V.

#### PHOSPHATE SHIPMENT FOR 1878.

A large quantity of phosphate has been taken out in the Provinces of Quebec and Ontario during the present year, and shipped to England, where it is manufactured into super-phosphate and sold for fertilizing purposes. In the district southwest of the town of Perth, some six thousand tons have been mined, and shipped from Kingston, mostly by the Montreal Transportation Company. Some of the phosphate was taken into Kingston by waggon, from adjacent townships, for shipment, but the most of it was taken down in vessels on the canal from the Rideau Lake locality. About a similar quantity has been taken out in the Province of Quebec, Ottawa county furnishing the largest share, by all odds. This gives a total production for 1878 of 12,000 tons. It sold at from \$12 to \$16 a ton, ready for shipment, which gives an easy average of \$14 per ton, as most of what was produced found ready sale at \$15 per ton. This gives a total of \$168,000 as the value of phosphates taken out and shipped during the current year, which shows that the industry is of some importance. But it is as yet only in its infancy, but gives promise of rapidly becoming an important industry in this country. Under existing circumstances, the raw phosphates are shipped to the old country, where the manufacturing process is gone through with. And the question naturally arises, would it not pay better to have the super-phosphate made in Canada, and then shipped ready for use? There is no doubt that it would, as a readier market would be found for the article, beside which there would be no freight to pay for refuse matter. Super-phosphates made from Canadian rock form the richest fertilizer in the world, and will therefore always find ready sale. The establishment of super-phosphate mills in Canada, at or near the mines, would prove a paying speculation for capitalists.

DECEMBER, 1878.

The month of December, 1878, was one of storms, cold, meteors and snow-falls, more especially in the West.

THE RECORD AT MONTREAL.

Temperature Montreal.

	Max.	Min.
1. Hard frost ; fair to cloudy ; cold night.....		
2. Sleet and rain ; dark day ; snow Winnipeg. . .	38° 4	23° 2
3. Cold and wet ; light snow ; sleighing Pembroke	39° 7	31° 0
4. Snowing at many points and heavily overcast. .	33° 1	25° 3
5. Overcast and snowing ; ground well covered Montreal.....	34° 10	21° 8
6. Wintry weather with light snows.....	23° 5	14° 6
7. Fair to cloudy and cold with snow flurries. ....	23° 0	17° 1
8. Brilliant cold day with fair covering of snow. . .	26° 9	13° 7
9. Overcast and cold with light snows ; cold weather reported from many points ; sleighing Manitoba ; Bay frozen, Belleville, Ont., three weeks before last year.....		
10. Tremendous pour of rain Montreal ; deep snows through Pontiac County ; heavy snow and drifts Quebec ; ground bare again Montreal	39° 1	25° 7
11. Much colder with flurries of snow.....	47° 3	21° 9
12. Fair to cloudy with flurries of snow. ....	26° 0	19° 8
13. Fair to cloudy and cold ; calm ; 10° below zero at Winnipeg ; Great snow storm raging in Missouri, Iowa and Kansas for last 24 hours ; snow fell in Kansas to the depth of 22 inches ; heaviest fall ever known in that section.....	26° 2	18° 6
14. Overcast and cold ; snow in England and Europe. ....	23° 0	15° 6
15. Fall of snow during night ; sleighs out ; bright cold day and fine winter weather.....		
16. Fair to cloudy cold day ; fair sleighing everywhere.....	16° 1	9° 2
17. Fair cold weather.....	27° 0	12° 1
18. Fair cold weather ; Toronto Bay frozen.....	27° 8	12° 4
19. Bright and cold weather ; river full of ice.....	16° 0	5° 7
20. Overcast with snow flurries.....	25° 8	9° 4
21. Very heavy snow fall afternoon and through night over large portion of Canada and Western United States ; 19 inches snow fell at Montreal.....	25° 6	18° 7
22. Heavy blockades of snow everywhere ; still snowing at many points westward ; 24° Winnipeg.....		
23. Bright, cold and drifty ; intense cold in North-West ; heavy snow falls in England.....	22° 1	9° 5

24. More snow ; very cold weather west and north-west ; Buffalo reports 3 feet of snow and still snowing ; snow storms reported from all parts of Canada . . . . . 16° 2 8° 6
25. Christmas. Fair with light snows ; more like a Christmas "of the olden time." . . . . .

One of the stormiest Decembers on record since the year 1871, the prelude, probably, in Mr. Vennor's opinion, to a winter of heavy snow-falls and sharp weather. This year approaches the year 1871 more than any other, and exceeds it considerably.

The totals of snow-falls for December 1870 to 1878 inclusive, are as follows :

December, 1874.....	Snow fell on 15 days....	21.4 inches.
" 1875.....	" 18 "	24.2 "
" 1876.....	" 19 "	23.6 "
" 1877.....	" 12 "	4.3 "
" 1878.....	" 19* "	29.9* "

\* To the 26th inclusive, only, after which considerable snow fell.

## ADVERTISERS

Please look at the following Circulations :

DAILY WITNESS.....	13 870
WEEKLY " .....	27 400
NORTHERN MESSENGER.....	51 000
L'AURORE.....	1 000
	93 270

Each paper, it may be fairly estimated, is read by at least five persons, making the total number of those by whom the WITNESS publications are read 466,350. The population of the Dominion at last census was 3,483,671, thus the WITNESS publications are read by nearly one in every seven of the total population of Canada. Deducting 1,100,000 from the total population to represent the French speaking element, the proportion of readers of the WITNESS publications, not including L'Aurore, would be one in every five of the population. This is a phase of the advertising question which commends itself to the attention of business men.

JOHN DOUGALL & SON,  
*Montreal, Publishers.*

ESTABLISHED 1833.

**MERCHANT'S**

# Gargling Oil Liniment

**Yellow Wrapper for Animal and White for Human Flesh.**

"Whether for use on man or beast, Merchant's Gargling Oil will be found an invaluable Liniment, and worthy of use by every resident in the land. We know of no proprietary medicine or article now used in the United States which shares the good-will of the people to a greater degree than this. Yellow wrapper for animal and white for human flesh."—*New York Independent*."

From C. T. Dale & Co., Mortonville, Ky.—We sell about twenty bottles of Gargling Oil where we sell one of any other liniment, and the last year we have bought and sold more than any year previous.

From J. G. McCullough, M.D., dated Beallsville, Ohio, Aug. 22, 1872.—We are selling Merchant's Gargling Oil faster than any other liniment.

From Dr. J. P. Terrell, Warren, Ind., March 3, 1856.—I am engaged in the practice of medicine, and find your Gargling Oil an extremely efficient remedy in all cases where an external application is indicated.

From J. C. B. Ish, M. D., dated Arrow Rock, Mo., Sept. 9, 1872.—I sell a great deal of your Gargling Oil, and think it the finest medicine I ever saw.

## Merchant's Gargling Oil as a Family Liniment.

We are now, and have been for some years, preparing the Oil free from stain, to be used as a common Liniment for human flesh, extracting the coloring ingredient which has heretofore rendered it objectionable. This Oil possesses all the medicinal properties of that prepared with the dark tinge for horses and cattle, and will be found one of the best remedies for all purposes where a liniment is required that has ever been manufactured.

From J. K. Fisher, Uniontown, Pa., January 31, 1857.—"Your Gargling Oil is doing much better here than formerly, since its vir ues have become known; and the bottles put up for family use, without stain, are much sought for."

The Gargling Oil called "Family Oil," although prepared intentionally for human flesh, answers as well for beasts, *vice versa*, the dark Oil answers as well for human flesh, only it will stain and discolor the skin, but not permanently. Yellow wrapper for animal and white for human flesh.

## Gargling Oil Liniment as an Internal Remedy.

Merchant's Gargling Oil is a diffusible stimulant and carminative. It can be taken internally when such a remedy is indicated, and is a good substitute for pain-killers, cordials and anodynes. For Cramps or Spasms of the Stomach, Colic, Asthma, or Internal Pain, the dose may be from fifteen to twenty drops, on sugar, or mixed with syrup in any convenient form, and repeated at intervals of three to six hours. Yellow wrapper for animal and white for human flesh.

Merchant's Gargling Oil is the Standard Liniment of the United States. Established 1833. Large size, \$1; medium, 50c.; small, 25c.; small size for family use, 25c.

Manufactured at Lockport, N. Y., by M. G. O. Co., and sold by all druggists.

**JOHN HODGE,***Secretary.*

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### The "HOUSEHOLD JOURNAL,"

The Largest and Best Story Paper published in America, full of interesting STORIES, SKETCHES, ANECDOTES, POEMS, &c., 8 pages, 56 columns. READ EVERY WORD.

#### GRAND PREMIUM TO EVERY SUBSCRIBER.

We want to introduce the "HOUSEHOLD JOURNAL" into every family in the country, and make the following offer:—

**PREMIUM No. 1.**—Upon receipt of \$1.00 we will send the **HOUSEHOLD JOURNAL** one year to any address, and your own name made in a beautiful Rubber Stamp for marking linen or printing cards, together with a bottle of Indelible Ink, bottle Carl Ink, package of Gold Bronze for making gold letters, and 50 Visiting Cards.

**PREMIUM No. 2.**—Upon receipt of \$1.00 we will mail the **HOUSEHOLD JOURNAL** one year, and our perfect little gem of a **MAGIC LANTERN, 18 VIEWS.** Throws an 18 inch picture upon the wall or canvass, is especially designed for Parlor or Home entertainment, and worth \$5.00 for one evening. It is indeed a beautiful present.

**PREMIUM No. 3.**—Upon receipt of \$1.00 we will mail the **HOUSEHOLD JOURNAL** one year, and one set Genuine Silver Plated Tea Spoons. Pure silver plate on a coating of hard white nickel, and warranted to wear. They cannot be sold by any retail dealer for less than \$1.25 per set.

**PREMIUM No. 4.**—Upon receipt of \$1.00 we will mail the **HOUSEHOLD JOURNAL** one year, and our two new and beautiful chromos "SUNSET ON LAKE GEORGE" and "THE OLD OAKEN BUCKET" (just published, size of each 15 x 21. They cannot be bought for \$2.00 each.

**PREMIUM No. 5.**—Upon receipt of \$2.00 we will mail you the **HOUSEHOLD JOURNAL** one year, and our Bonanza Seven Shot Nickel Plated Revolver. The following letter from a customer will be a sufficient recommendation of the revolver we give as a premium:—

OTTAWA, September 5th, 1878.

Messrs. E. G. RIDEOUT & CO.—GENTS,—I received the Revolver all safe; many thanks. I have used it to test its range, and find it will carry 90 feet and pierce a wet plank two inches thick, then across an open space 10 feet, and through an inch dry board, and for all I know the bullet may be going yet. It is a regular little terror to carry a ball. Three or four of my friends are going to send for one.

Truly yours,

GEO. P. BLISS.

**This Revolver will sell from \$3 to \$5.00 very quickly**

This offer is only made to induce you to try the **HOUSEHOLD JOURNAL** one year, and we feel confident you will always be a regular reader after taking it one year. I don't think because we make this offer that the paper is worthless. You will be as pleased with it as we are proud of it.

**IF YOU SEND IN A CLUB** of 5 subscribers, we will mail you a copy of the paper for one year free, and either of our \$1.00 premiums—both post paid. If you send us a club of 10 subscribers we will mail you a copy of the "Journal" one year free, and our premium Revolver. Remember every subscriber in the club is entitled to one of the premiums the same as for a single subscription.

**The Paper and Premiums are both mailed post paid to every new Subscriber, and their safe delivery guaranteed.**

**TRIAL THREE MONTHS,** with the charming pair of chromos, "Windfalls" and "The Foraging Party," size 10 by 12, post paid, by return mail, 25 cents,

#### HOW CAN WE AFFORD TO DO THIS?

is the first question naturally asked, and we will endeavor to answer it to your satisfaction. We either manufacture or have made to our order all the articles we use as premiums in very large quantities; hence we are able to do this and make a profit. Small, 'tis true, but it pays us and introduces our journal. Our circulation is already very large and increasing at a rapid rate.

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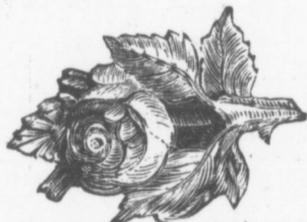
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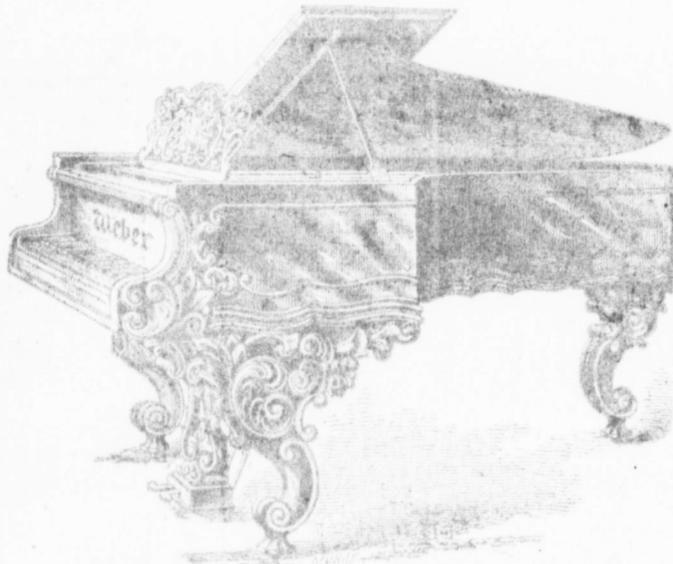
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25 Cents each - 3 for 50 Cents - 12 for \$1.75.

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**FUN.** -ACQUAINTANCE and ESCORT CARDS - Richest thing out. If you want to have fun, buy them, -50 for 25 cents; 20 for 10 cents. **MONTREAL NOVELTY CO.,** Box 1,120, Montreal, P. Q.,

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**E. G. Rideout & Co.,**  
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# WEBER

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Attest. [Seal.] J. L. CAMPBELL.

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