—*Pins pointed by Electricity.*—A recent discovery has been made by M. Cadery, telegraph inspector on the Western Swiss railroad, and is now applied with success at Aix la Chapelle (Belgium), whence needles and pins are shipped to all parts of the world. On passing a metallic wire (brass, copper, iron or steel), connected with the negative pole of a Bunsen's battery, through the bottom of a glass tube, closed in such a way as to hold an acidulated liquid, and leading the other wire of the positive pole through the superior opening of the glass tube, closed in such a way as to allow the positive wire to plunge into the acidulated liquid, taking care to leave a small interval between the extremities of the wires; the electric current thus established through the acidulated fluid as a conductor, produces the following phenomena. Very soon the extremity of the positive wire takes a conical point of more or less sharpness, depending on the free distance existing between the two wires plunging into the acidulated liquid. During this phenomenon, which takes from 5 to 15 minutes, according to the acid used, its strength, the composition of the wire, its degree of thickness, and also the intensity of the electric current, very fine sections of the wire are seen to separate from the wire. Water, acidulated with sulphuric acid, appears to be more efficacious, especially for iron and steel wires. Nitric acid is used in preference for brass and copper wires. The same effect will take place if to the positive pole (superior) an indefinite number of wires are tied together and dipped in the acidulated water, instead of the single wire, care being taken always to keep this positive wire at a little distance from the negative wire. I have seen a hundred brass wires after having been submitted to this operation, present points as sharp as the best English pins, although the electric current was produced by a very small Bunsen's battery. It appears to me very desirable that this new method should receive proper encouragement, and everything should be tried to bring it into general use. The operation of making the points of needles and pins in their manufacture is a dangerous and costly one. Medical men in large manufacturing cities have long recognized the dangerous effects produced by the fine metallic dust resulting from it, on the health of the workmen. The remedies for this evil are very imperfect, little used, and very impraticable; inhaling apparatus communicating with the outside air has been tried, but every danger would be suppressed by the method above described.—*Scientific American.*

Contributions to Canadian Meteorology.

Compiled from the Records of the Isle Jesus and Montreal Observatories.

By CHARLES SMALLWOOD, M.D., LL.D., D.C.L., Professor of Meteorology in the University of McGill College, Montreal.

The following table has been drawn up for the purpose of showing the respective dates of the setting in and of the breaking up of our Canadian winters for the past twenty-one years, and for illustrating the climatology of Montreal and its vicinity.

1	2	3	4	5	6	7	8	9	10
YEARS.	First Snow of Autumn in comparatively Inappreciable Quantities.	First Snow of Autumn in Appreciable Quantities.	Depth in Inches.	First Frost of Autumn.	Date of First Descent of Thermometer to 32° F.	Last Snow of Spring.	Date of Last Descent of Thermometer to 32° F.	Winter fairly set in.	Date of the Ice leaving the St. Lawrence in Front of the City of Montreal.
1849	Nov. 27	Dec. 1	2.00	Oct. 15	Oct. 6	Apr. 13	Apr. 18	Dec. 10	Apr. 7
1850	,, 17	Nov. 18	2.14	,, 14	,, 14	,, 14	,, 20	,, 7	,, 9
1851	Oct. 25	,, 15	1.50	,, 2	,, 16	,, 8	,, 14	Nov. 21	,, 9
1852	,, 17	,, 11	1.20	Sept. 17	Sept. 29	,, 16	,, 24	Dec. 18	,, 19
1853	,, 24	Oct. 24	2.00	,, 12	,, 30	,, 14	May 1	,, 17	,, 24
1854	,, 15	Nov. 17	1.10	,, 11	,, 11	,, 30	,, 7	,, 4	,, 25
1855	,, 24	,, 17	2.74	Aug. 9	,, 29	,, 11	,, 10	,, 23	,, 28
1856	Nov. 1	,, 25	1.30	,, 26	Oct. 4	May 31	,, 6	Nov. 29	,, 24
1857	Oct. 20	,, 16	2.01	Sept. 7	Sept. 30	Apr. 27	,, 14	Dec. 21	,, 18
1858	Nov. 4	,, 13	3.25	Aug. 25	Oct. 23	,, 22	,, 14	,, 20	,, 9
1859	Oct. 20	Oct. 21	2.30	Oct. 7	,, 8	,, 23	Apr. 27	,, 16	,, 4
1860	Sept. 29	,, 15	1.10	Sept. 3	Sept. 29	May 20	May 20	,, 2	,, 10
1861	Oct. 23	Nov. 3	0.32	,, 5	Oct. 21	Apr. 17	,, 4	,, 21	,, 24
1862	Nov. 10	,, 26	1.84	Aug. 24	,, 10	May 7	Apr. 27	,, 19	,, 23
1863	,, 11	,, 26	1.94	Oct. 24	,, 27	,, 2	,, 21	,, 9	,, 25
1864	Oct. 8	,, 5	3.10	Sept. 26	,, 29	Apr. 18	,, 5	,, 12	,, 13
1865	,, 28	Oct. 29	0.66	Oct. 21	,, 23	,, 20	,, 19	,, 22	,, 10
1866	,, 4	Dec. 6	0.80	Sept. 16	Sept. 24	May 3	May 2	,, 16	,, 19
1867	Nov. 5	Oct. 14	1.60	,, 23	Nov. 3	,, 2	,, 4	,, 1	,, 22
1868	Oct. 17	,, 21	4.92	Oct. 4	Oct. 17	Apr. 23	,, 1	,, 7	,, 17
1869	Sept. 27	,, 22	6.47	Sept. 28	,, 20	May 3	Apr. 29	,, 4	,, 23

Meteorology.

—From the Records of the Montreal Observatory, lat. 45° 31 North Long. 4h. 45m. 11 sec. West of Greenwich, and 182 feet above mean sea level,—for July, 1870,—by CHAS. SMALLWOOD, M.D., LL.D., D.C.L.

DAYS.	Barometer corrected at 32°			Temperature of the Air.			Direction of Wind.			Miles in 24 hours.
	7 a.m.	2 p.m.	9 p.m	7a.m.	2p.m.	9 p.m	7a.m.	2p.m.	9p m.	
1	29.811	29.806	29.957	54.2	78.0	59.7	wbyN	wbyN	wbyN	89.74
2	30.021	30.107	30.000	58.2	77.9	69 0	wbyN	w	w	104 00
3	29.950	29 916	29.900	64.1	80 0	74.6	wbyN	wbyN	w	77.20
4	.947	.914	.875	65 8	87 2	72 3	w	s w	s w	80.00
5	.873	.897	.880	64.2	80.9	71.7	s	w	w	65 24
6	.961	.960	.960	67.8	86.4	75 8	w	w	w	97.10
7	.825	.626	.600	73 0	82 4	74.0	w	s w	s w	109.24
8	.601	.716	.800	66.0	71 0	66 8	w s w	w	w	121.04
9	.86	.873	.900	62.2	79 0	69.1	w	w	w	314.27
10	.900	.911	.950	68.2	83 2	75 3	w	w	w	289 42
11	30.000	.994	.947	68.2	89.2	77.0	w	w	w	297.12
12	29.775	.857	.721	68.6	81 7	72.0	w	s w	s w	114.10
13	.750	.749	.698	73.4	82 4	66 1	w	w	w	161.21
14	.705	.742	.761	68.2	78.8	68.0	w	w	w	97.27
15	.862	.911	.950	65.2	82.4	68.3	w	w	w	101.20
16	.961	.907	.849	62.0	81.7	72.1	w	s w	s w	97.24
17	.862	.826	.851	68.7	88 0	77.6	s w	w	w	90.00
18	.872	.861	.800	74.2	92.0	77.7	w	w	w	197.79
29	.962	30.050	30.000	70.0	90 2	75 8	w	n e	n e	184.12
20	.976	29.914	29.849	71.1	89.2	74 0	n e	s w	w	99.12
21	.824	.960	30 011	73.2	92.2	72.0	n e	wbyN	n	194.27
12	30.060	.967	29.926	68.7	90.3	77.2	w	w	w	101.12
23	29.997	.970	.946	70.4	87 4	79.6	w s w	w	w	274.44
24	.899	.801	.783	74.7	96 1	74 0	w	w	w	114.10
25	.961	.974	.992	72.3	84 1	73.2	w	w	w	101.24
26	.951	.902	.851	71.1	87.0	75 1	w	w	s w	89 94
27	30 026	.997	.946	61.2	82.0	69.1	n e	s e	n e	274.24
28	29.900	.811	.712	65.1	92 0	74.2	n e	w	w	101.12
29	.622	.820	.700	69.0	72.1	64.2	s w	w	w	97 74
30	.847	.912	30.050	67.0	74 2	68.2	n e	w	w	201.11
31	30.008	.988	29.936	68 0	87.7	70.1	w	w	w	212.00

Remarks.—Highest reading of the Barometer, was 30.000 inches on the 22nd day; lowest on the 7th, 29.600 inches; monthly range 0.466 inches; mean temperature for month 74° 62, which is 5 degrees higher than the *isotherm* for Montreal. The highest reading was on the 24th day, and was 96° 1. The mean temperature of that day (the warmest day) was 81° 6.

Rain fell on fourteen days, amounting to 3.352 inches, and was accompanied by thunder on five days.

—Meteorological Observations taken at Quebec, during the month of July, 1870; by Sergt. John Thurling, A. H. C., Quebec.

Barometer, highest reading on the 22nd	29.881 inches.
,, lowest ,, ,, 8th	29.378
,, range of pressure	0.503
,, mean for month (reduced to 32°)	29.566
Thermometer, highest in shade on the 24th was	95.0 degrees.
,, lowest ,, ,, 1st	46 3
,, range in month	48.7
,, mean of all highest	82.7
,, mean of all lowest	59 6
,, mean daily range	23.1
,, mean for month	71.2
,, highest in sun's rays	133 0
,, lowest on grass	45.0
Hygrometer, mean of dry bulb	73.7
,, ,, wet bulb	64.4
,, ,, dew point	52.6
,, elastic force of vapour	.475
,, vapour in a cubic foot of air	5.2 grains.
,, ,, required to saturate do	3.6
,, mean degree of humidity (Sat. 100)	57
,, average weight of a cubic foot of air	512.6
Cloud, mean amount of, (0-10)	5.8
Ozone, ,, ,, (0-10)	3.3
Wind, mean direction of ,, North	4.50 days.
,, ,, ,, ,, East	4.75
,, ,, ,, ,, South	5.50
,, ,, ,, ,, West	15.75
,, ,, ,, ,, Calm	0.50
,, ,, force by estimation	2 5
,, ,, daily horizontal movement	125.4 miles.
Rain fell on	14 days.
Amount collected	6.59 inches.