

with the general distribution of population by nationalities. One item gathered from the reports, but not shown by this table, is that only 15 of these cases were colored people, and the mortality among them was 2. As to sex, 100 cases were females. So far as occupation was concerned all walks of life were represented, but the greater number of cases occurred among those engaged in occupations apparently requiring physical rather than intellectual effort.

TABLE 4.—The 841 cases of sunstroke reported from hospitals or private practice, arranged according to nativity and fatality

Nativity.	Number reported.	Deaths.	Nativity.	Number reported.	Deaths.
United States .....	340	37	Austria .....	5	2
Ireland .....	253	44	Denmark .....	2	1
Germany .....	123	24	Belgium .....	1	1
England .....	32	5	South America .....	2	0
Italy .....	14	0	Spain .....	1	0
France .....	10	5	Holland .....	1	1
Canada .....	8	3	Australia .....	1	0
Norway and Sweden .....	10	5	Armenia .....	1	0
Russia .....	7	0	Greece .....	1	0
Poland .....	6	0	Unknown .....	15	12
Scotland .....	5	0			
Switzerland .....	3	0	Total .....	841	140

HOW THE CHINOOK CAME IN 1896.

By A. B. COE, Voluntary Observer (dated Kipp, Mont., December 10, 1896).

Picture to yourself a wild waste of snow, wind beaten and blizzard furrowed until the vast expanse resembles a billowy white sea. The frigid air, blowing half a gale, is filled with needle-like snow and ice crystals which sting the flesh like the bites of poisonous insects, and sift through the finest crevices. The sun, low down in the southern horizon, looks like a frozen globe, with halves, crescents, and bright prismatic bars encircling it.

Great herds of range cattle, which roam at will and thrive on the nutritious grasses indigenous to the northern Slope, wander aimlessly here and there, or more frequently drift with the wind in vain attempts to find food and shelter; moaning in distress from cold and hunger, their noses hung with bloody icicles, their legs galled and bleeding from breaking the hard snow crust as they travel—they appeal to the hardest heart for pity. It is sure death for human beings to be caught out in one of these awful blizzards, with the temperature down to 30° or 50° below zero, unless rescue is speedy. Yet, such conditions frequently exist in this latitude, as they did for fifteen days in November, 1896, when it seemed as if the elements had conspired to bring about another ice age, and annihilate every living thing.

Would the "chinook" never come? The wind veered and backed, now howling as if in derision, and anon becoming calm, as if in contemplation of the desolation on the face of nature, while the poor dumb animals continued their ceaseless tramp, crying with pain and starvation. At last, on December 1, at about the hour of sunset, there was a change which experienced plainmen interpreted as favorable to the coming of the warm southwest wind. At sunset the temperature was only -13°, the air scarcely in motion, but occasionally seemed to descend from overhead. Over the mountains in the southwest a great bank of black clouds hung, dark and awesome, whose wide expanse was unbroken by line or break; only at the upper edge, the curled and serrated cloud, blown into tatters by wind, was seen to be the advance courier of the long-prayed for "chinook." How eagerly we watched its approach! How we strained our hearing for the first welcome sigh of the gentle breath! But it was not until 11.35 p. m. that the first influence was felt. First, a puff of heat, summer-like in comparison with what had existed for two weeks, and we run to our instrument shelter to observe the temperature. Up

goes the mercury, 34° in seven minutes. Now the wind has come with a 25-mile velocity. Now the cattle stop traveling, and with muzzles turned toward the wind, low with satisfaction. Weary with two weeks standing on their feet they lie down in the snow, for they know that their salvation has come; that now their bodies will not freeze to the ground.

The wind increases in strength and warmth; it blows now in one steady roar; the temperature has risen to 38°, the great expanse of snow 30 inches deep on a level is becoming damp and honeycombed by the hot wind, and we retire satisfied that the "chinook" is a genuine and lasting one.

Twelve hours afterward there are bare brown, hills everywhere; the plains are covered with floods of water. In a few days the wind will evaporate the moisture, and the roads will be dry and hard. Were it not for the "chinook" winds the northern Slope country would not be habitable, nor could domestic animals survive the winters.

A METHOD OF FILLING A BAROMETER.

By Prof. EDWARD A. PARTRIDGE, Central Manual Training School, Philadelphia (dated November 12, 1896).

The tube selected for the barometer must be cleaned with the utmost care. This can be effected conveniently before sealing, as follows: After soaking for two hours in nitric acid, the tube is washed thoroughly with water. Then a wire drawing a string after it is passed into the tube. In the middle portion of the string there is a loop carrying a wad of cotton of suitable size. By drawing the string back and forth the cotton is made to wipe off all dirt. The tube is then washed with water, treated for a few minutes with a strong solution of caustic alkali, followed by thorough washing with pure water. A wad of cotton filled with precipitated chalk is next drawn through the tube. The precipitated chalk is preferable to rotten stone, tripoli, emery flour, or similar materials, since it can be entirely removed by subsequent treatment with nitric acid and water. This polishing of the tube is important, as it tends to give a clean surface, which allows the column of mercury to move with freedom in the tube. After the last treatment with nitric acid and subsequent careful washing with distilled water, the tube is set on end to drain, then carefully dried by drawing air (previously passed through sulphuric acid), through it, and at the same time heating it. After sealing the end the tube is arranged as shown in Fig. 1.

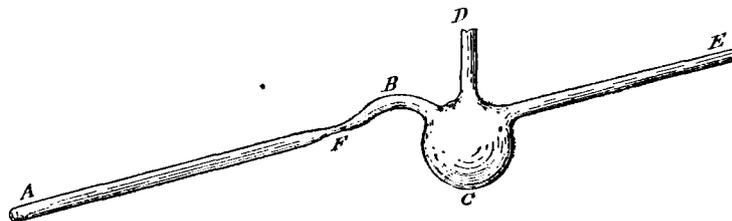


FIG. 1.

A B is the barometer tube, inclined at an angle of about 15°. The inclination should not be made more than 15°, since if it is the mercury acquires considerable velocity in sliding down the tube and will fall into the mercury already there with a splash, thus entangling a very minute portion of air. With the inclination of 15° there is no such splashing. C is a light glass retort which can be made by any one moderately skillful at glass blowing. D is a tube for introducing the proper amount of mercury to fill A B. E is a tube hermetically sealed to a mercury air pump, preferably of the Geissler type. E should be at least 10 inches long and inclined downward toward the retort in order that the mercury vapor may condense in it and run back to C instead of going to the pump. After introducing the mercury the tube D is heated with the blowpipe and drawn off and sealed. Between