

The Cod Liver Oil City—Hammerfest.

If we pass the wonderful Lofoden Islands, and continue the route toward the north, we arrive at Hammerfest, where we quit the birds for the fishes. As for the city itself, imagine a town watered by cod liver oil, and you will have some notion of the odor. The captain had warned the party beforehand, but their handkerchiefs steeped in eau de Cologne were but a slight defense. This horrible smell is due both to the important manufacture of the oil and to the thousands of fish on burdles drying in the sun.

The two to three thousand inhabitants of Hammerfest, the most northern town in the world (71° N.), are all occupied in this trade. Suffice it to say that a single boat well equipped, well stocked with bait, and in a good place can take from 500 to 600 cod a day. The scientific estimate that the ovary of a female of ordinary size contains nine million eggs. This is the mode of preparation:

First they remove the head and abdominal viscera; the ovary serves for bait; the liver yields the oil. Not long ago the heads were wasted; now they are dried and powdered and used as manure for poor land.

The body, dried hard and rolled in sticks, is called stock-fish, which is imported chiefly into Greece, Italy, France, and Spain.

The fresh livers are piled in barrels, slightly pressed, and the virgin oil runs out, unfortunately a kind rare in pharmacy, though its quality is beyond doubt superior. Then the livers are treated by a press similar to those used in Normandy for cider.

This is oil, second quality; color, reddish brown.

The waste livers are subjected to strong heat, and an oil is produced, third quality and black.

Whales afford an industrial occupation at Hammerfest.

The day before the arrival of Monsieur Labonne, the fishermen had caught a whale without trouble. The creature had stuck in a small creek which made a sort of natural trap, and it was unable to regain the open sea. The captain was asked what might be the value of the fish; and he replied 6,000 crowns (£336). They begin with selling rather dearly the 600 or 700 fins or whalebones; then they make great profit out of the immense quantity of fatty matters contained in the huge creature. This fat, improperly called oil, is naturally liquid, and is used for dressing skins. Beside the oleine, margarine, and phoceine, there is a volatile principle of the odor of leather, which gives the latter its characteristic smell.

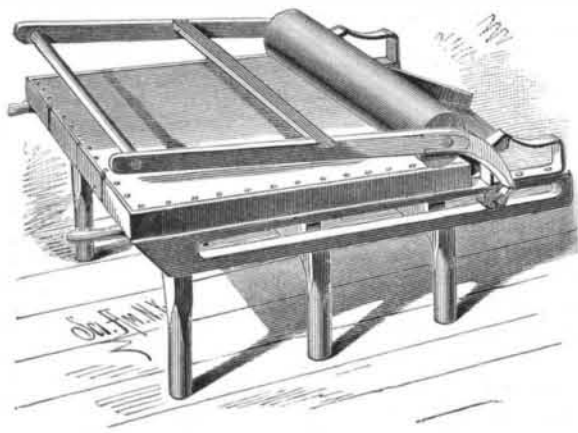
Turning to quite a different train of ideas, there is a monument at Hammerfest erected to the memory of Struve, who measured an arc of meridian from Ismail on the Danube to the frozen ocean precisely at this spot.

Farther north all cultivation disappears, and tree vegetation ceases—nothing but an underwood of stunted birch and willow.

Fish, even the largest, is caught with extreme ease; the large red hooks are scarcely plunged into the water than up comes an inhabitant of the sea, not a miserable specimen, but weighing some pounds at least.

MACHINE FOR WORKING BUTTER.

Upon each side of the stationary portion of the working platform, which is fastened to the middle of a common frame, are hinged parts that have handles at the outer back corners to aid in raising them when it is desired to throw the butter on to the middle of the table. When the leaves are open, the top of the table is a plane surface with a slight incline forward to carry off the water from the butter; and to prevent the water running over the edges, small grooves are made near the edges of the leaves. The connecting arms are made of iron, one end being firmly bolted to the levers and the other end being provided with a roller which travels in a groove in the side of the frame. The levers carry the working roller. This construction of the lever admits of a

**WASSON & HITT'S MACHINE FOR WORKING BUTTER.**

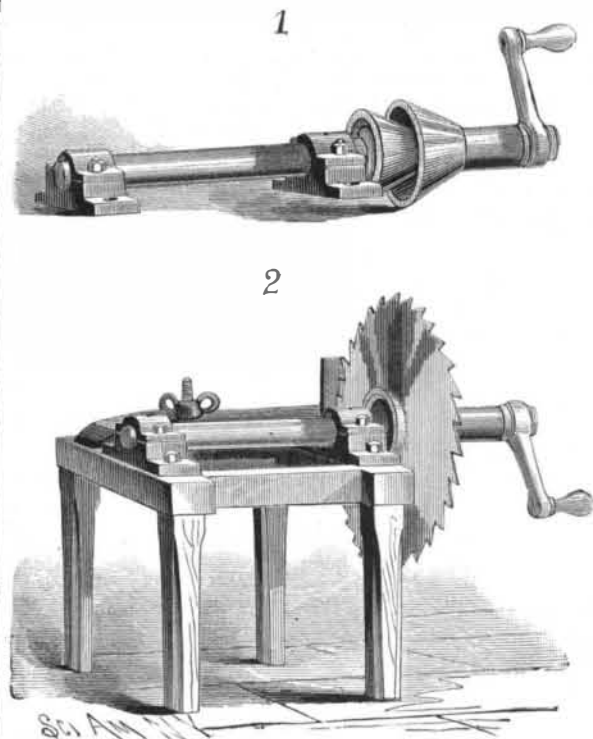
free motion backward and forward, or upward, at the option of the operator. A sheet of white cambric or flannel is fastened over the entire table.

The machine is operated by placing the butter in the center of the table, and then working the roller backward and forward by means of the lever handle. When the butter has worked its way nearly to the outer edges, it is thrown back upon the center of the table, by first raising the lever out of the way and then lifting the side leaves.

This invention has been patented by Messrs. J. Wasson & R. T. Hitt, of La Porte City, Iowa.

IMPROVED SAW ARBOR.

The engraving represents a cheap and effective device for holding circular saws for the purpose of jointing, setting, and filing them. The saw arbor or mandrel is journaled in bearings on a suitable frame, and at one end is made cone-shaped as shown. A corresponding hollow cone and shaft fit over the arbor and cone; the hollow shaft being of less length than the inner one. When it is desired to clamp a saw upon the arbor, the hollow cone is removed, and the hole in the saw placed so as to rest upon the face of the cone when the hollow cone is replaced and its end pressed against the face of the saw. The sleeve is then washed up

**HACKET'S IMPROVED SAW ARBOR.**

until the washers abut against the nut on the end of the shaft. Upon tightening the nut the saw is pressed against the cone and held firmly in place. Means for revolving the arbor, either by pulley or crank, are provided. The file is carried upon the end of the upper of two cross bars, which are adjustably clamped upon the upper and under surfaces of the side bars of the frame by a bolt and nut, as shown in the perspective view. With this device saws having eyes of different sizes, from the diameter of the shaft to the greatest diameter of the cone, can be held securely in place.

This invention has been patented by Mr. T. N. Hacket, of Emporium, Pa.

Electricity and Vital Power.

If we wish to judge of the electrical condition of the atmosphere, we do not examine for that purpose a paving-stone, the trunk of a tree, or the surface of a lake. They undoubtedly experience the effects of the changes for which we are looking, but they are not fitted to show them, and we select instruments which are sensitive; that is, those whose structure enables them to make manifest the changes as they occur. And we must apply precisely the same method of common sense if we would fairly learn how real and decided is the effect of atmospheric electricity on human health. We are well aware that the degree of individual susceptibility to the influence of external causes varies most remarkably, and this is true of morbid causes as fully as of any others. The "seeds of disease," to adopt a popular term (whether we accept the *germ theory* or not), are floating about us in myriads without number, and are inhaled by us with every breath, and yet the diseases are manifested only here and there, wherever the "seed" finds a susceptible point for its growth. In the same manner, though the electrical influence may come alike upon all, yet is its effect made manifest to us in certain cases with great power, while in others we fail to detect it.

Inasmuch as the two forces have so much in common, it is reasonable to infer that any disturbance of the nerve force should be greatest and most easily seen and measured where the vital powers were in an enfeebled condition, and most strikingly of all where the nervous system itself was in an irritable hyperæsthetic state; and this is precisely what is noted in constant clinical observation. Every physician whose line of practice brings under his charge many patients suffering from depression of nerve force, that which is of late recognized as *neurasthenia*, sees daily proof that they are more sensitive to electrical changes than any electrometer. The approach of a thunder shower is felt and mentioned by them often twelve hours or more before its arrival. Sometimes it causes an intense pricking and tingling of the skin, "like ten thousand needles," as they express it. Not unfrequently it induces active and even violent disturbance of the bowels, which will not subside without assistance, even after the cause has passed away.

Very often, in those hysterically inclined, it brings on hysterical unconsciousness, lasting many hours. And where no physical demonstrations occur a heavy mental depression, what they often term "a fit of the blues," gives evidence that the electrical force is bearing down the nerve force sadly. And it must be noted that these effects are not to be con-

founded with those produced by fear of the thunder; to those we make no reference.

Still again, without any electrical display in the form of lightning and thunder, there often come similar conditions of the atmosphere, continuing for, it may be, many days, and during the whole of that time every nervous patient is under a burden, though commonly ignorant of the true cause, and disposed to attribute such bad feelings to this thing or to that, as may be, and to try the patience not a little of friends, and perhaps of the physician, unless he recognizes the truth.

We set forth this class of sufferers as the nerve-electrometers, only because they manifest the changes so conspicuously. But whenever the vital force is enfeebled by specific or organic disease it is entirely easy to see how powerfully the electrical conditions of the atmosphere may intervene to determine the probabilities of life or death. When the power of life is barely able to hold its own in the struggle, a very slight cause of depression may be sufficient to turn the scale, and death will be the result; and it is sure that we have in atmospheric electricity a force which is capable of producing that result.

We have thus far been discussing only one side of the question, but very fortunately there is an opposite influence. Those degrees of tension which are seeking relief by discharges more or less violent, we have seen to weigh heavily on the vital force, but the stages of greater equilibrium show, as we might expect, precisely antagonizing effects. Even those of us who are in perfect health notice it. We say that the air is "bracing," etc., and it is perfectly sure that the sensitive, hyperæsthetic patients, of whom we have been speaking, respond to the influence, and the physician on his rounds learns to expect it, and is not disappointed as he finds one after another of them, like an old-fashioned weather-glass, pointing to "set fair."

No sufficiently extended observations are as yet on record to enable us to judge how closely the condition of atmospheric electricity is associated with the spread and continuance of epidemics of various diseases. That is yet to come.

W. O. A.

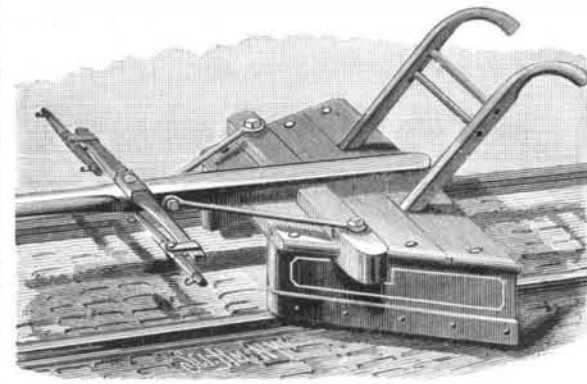
[Our correspondent makes some very strong assertions; but he fails to present any evidence for the support of his electrical theory. Our impression is the humidity, varying pressure of the atmosphere and fluctuations of temperature, would account for nervous disturbances better than the theory of atmospheric electricity.—Eds. S. A.]

Successful Men.

In every class of business the princes of the trade are the men who began with nothing, and who look around on all the attainments of their age with the honest gratulation that they have been dependent for their success and prosperity upon their own integrity, fidelity, and skill. And the circumstances of the commencement of active business life should not be regarded as a reason for regret or a cause for sorrow, for there is no other process less painful or harassing which will so surely stir up the gift which may be in a man, and bring out for circulation and use the veins of gold which may be embedded in his hidden mines. If he be faithful, honest, honorable, his early straitness of condition will be an everlasting blessing. It is a soil that will yield to appropriate cultivation the richest and most lavish fruit. But it will involve care, thought, labor, purpose, and unshrinking honor to prevent its becoming not merely a perplexity in occupation, but a poison to the soul.—U. S. Economist.

CAR TRACK CLEANER.

The device herewith shown is for clearing snow, mud, etc., from horse car tracks, and was recently patented by Messrs. J. G. Holden and J. E. Coe, of Danville, Ill. The scrapers are made of wood and are shod at their lower edges with steel plates; they are attached in oblique positions to the cross bars, as shown in the cut, so that the forward ends are a less distance and the rear ends a greater distance apart

**HOLDEN & COE'S CAR TRACK CLEANER.**

than the rails. To the rear are secured handles by which the cleaner may be placed upon and guided upon the track. The tongue which carries the ordinary whiffletrees for attaching the team to the cleaner is secured to the heavy cross bar and is braced by rods.

The cleaner is to be used after an ordinary snow plow has been passed over the track, and while being drawn along the track it will be so guided by a person at the handles that the shoes will run fairly upon the heads of the rails. The shoes are made thin and sharp, so that they will effectually remove all snow and ice.