## Digestibility of Raw and Cooked Meats and Milk.

E. Jessen has recently completed some interesting investigations regarding the time required to digest meat and milk prepared in different ways.
His first experiments were made with artificial gastric julce. Twenty-five grammes of beef were placed in it for $2 t$ hours, and the undissolved portion weighed at the end of that time. Of the raw beef about $5 \frac{1}{2}$ grammes only remained, of the half cooked $91 / 2$ to $93 / 4$ grammes, while that which was well done left from 17 to 18 grammes.
The next experiments were made on a dog with an opening in the stomach. Here too the raw meat digested nore quickly than boiled or roasted meat. The time for raw beef was $5 \cdot 3$ to $5 \cdot 5$ hours.
Experiments were also made upon men by introducing 100 grammes of meat and 300 c . c. of water into an emply stomach; after a certain time the contents of the stomach were pumped out, and if the microscope detected no muscle fibers the digestion was considered finished. The time refibers the digestion w
quired was as follows:


In the experiments with milk such a quantity was given as to correspond in the quantity of nitrogen it contained to 100 grammes of beef. The time was as follows: 602 c. c. raw cow's mills 602 c. c. boiled cow's milk. 602 c. c. sour " ".
675 c. c. skimmed cow's milk
$656 \mathrm{c} . \mathrm{c}$. raw goat's milk ...
-Zeitschrift fur Biologie.

## New Source of Caoutchouc.

The attention of the Indian Government has beeu drawn to a new plant, which is commou in southern ludia, and yields abundant supplies of pure caoutchouc. It is an apocynaceous plant called Prameria glandulifera, the native habitat of which appears to be in the forests of Cochin Cbina, where the liquid juice is often employed in medicine by the Annamites and Cambodians. In China it is called tuchung, and is a frequent ingredient in the Chinese maderia medra, in the shape of blackened fragments of bark and small pieces of twigs. It is imported into that country from Cochin China, the price of the bark after being smoke dried being about 20 s . the picul ( 133 pounds). When broken, the twigs are seen to contain an abund of caoutchouc, twigs are seen
which can be drawn out into threads as in the East African landolphias. The plant may be propagated by cuttings, and M. Pierre, director of the Botanic Gardens at Saigon, thinks that it may be planted in forest reserves when the trees are not less than ten years old, aud that an addition may be made to Indian forestry of great economic value.

## ADJUSTABLE PIPE WRENCH.

On the working end of the bandle is a thread, cut preferably between the $\mathbf{V}$ and square thread-a little flat at both the top and bottom-thus doing away with the sharp edges of one and the square corvers of the other, and producing a thread not so susceptible to injury from rough usage. O the screw threaded portion of the handle is a nut, attached to the sides of which, by forks, is an angular serrated jaw, the teeth of which extend to the second angle from the end. On the extremity of the bandle is a reversible fixed head having opposite concave serrated gripping surfaces. The forked portion of the jaw is of diverging construction toward the nut to which it is pivoted, thereby insuring increased strengtb. The reversible form of the bead or fixed jaw gives. a more varied gripping surface, and consequently reduces wear; and as the serrated surfaces of the head are concave in direction of the length of the bead, the bold or grip is better than if obtained from a convex form. The nut is long, and has two of its opposite sides flattened to form bearings for the forked end of the swinging jaw. This method of coustruction produces a cheap, simple, and durable wrench having an easy and extensive adjustment. Its form and application will be readily understood from the engravings. The wrench will work equally well on round, square, flat, or any number of sides, and can be made in sizes to suit the requirements; and when made of steel, as contemplated by the inventor, will be strong and lighl. If desirable, the opposite serrated sides of the fixed jaw may be at different angles to suit varied kinds of work, and, if deemed essential, the swinging jaw may be made with a rib along its back to insure greater strength, and may also be made of a concave instead of an angular form.
This invention has been patented by Mr. James L. Taylor, of Ishpeming, Mich., who will furnish further information.

## A Rainbov in a Clear Sky.

At Waterbury, Conn., about half-p:st eleven o'clock in the morning of October 30, while the sky overhead was clear and blue and the sun shone down with a warm and genial smile, there suddenly appeared in the northern heavens a rainbow of wondrous beauty and brilliancy. For about five minutes throngs of people gathered upon the sidewalks and other convenient places to ubserve the phenomenon, which then gradually faded away.

## PATENT FENCE.

The fence shown in the accompanying engraving is constructed in sections or panels of a convenient length for handling, and consists of top and bottom rails, end posts, and one or more intermediate parts. For intermediate rails, wood or metal bars are used, but rods or wires, secured to the uprights by staples, are preferable. In order that the panels may be easily joined, the upper and lower rails of one panel are extended so as to lap upon the edge of the post of the adjoining panel. The end post of one section is secured by a dowel pin to a ground block, e. The panel thus supported is the one having the projecting rails. The joint of the upper rails is so made that the panel whose rails do not project will rest upon the other. Cleats, $c$, are fixed to the sides of the rails to keep the pancls in line. The fence brace is beveled at both ends, and has at. its top the lock plate,


## RIGG'S IMPROVED FENCE.

shown at $a$, which is bent at right angles to the bevel and passes through an aperture in the post, projecting fron the other side sufficiently to receive a locking key. At the foot of the brace is secured, by a suitable pin, the yoke plate through which the stake is driven tirmly into the ground. This stake is made wedge-form, so as to tighten against the beveled end of the brace and yoke in a manner to prevent any rise of the foot of the brace.
This invention has been patented by Mr. James W. Rigg, of Mount Carmel, Illinois.

## Nordenskjold's Greenland Exploration

Baron Nordenskjöld bas telegraphed to us, from Thurso, the results of his Greenland expedition. His work has not been wasted. It shows us, for the tirst time, what the interior of Greenland is like, and though it is very unlike what Baron Nordenskjöld imagined it to be, it has furnished him with evidence in favor of his theory that the volume of the globe has been increased by the cosmic dust that has been constantly falling upon it from the lucid interspace that surrounds it on all sides.
Greenland, Baron Nordenskjöld held, must have reason for the name it bears. It could not be the mere waste of ice which it has been-supposed to be. The coast line, it is true, is forbidding enough, and gives siender promise of any-
thing better beyond. But as long as the interior was unvisited


## taylor's adjustable pipe wrench.

there was ample room for hope. The moist ocean winds which blow upon Greenland could be assumed to bave spent their force and to bave deposited their hurden of snow upon might mountains of the coast. Further inland the scene covered with vegetation, with grass and shrubs and flowers cut off for long ages past from intercourse with the outer world, and possessing, therefore, peculiarities of their own, tit objects of study to the scientific naturaiist. Such were Baron Nordenskjöld's anticipations. His report tells us tothing in contirmation of them.
His expedition to the interior has penetrated a long way into regions never before traversed. It has found mountains, it has found snow, it bas found ice, and it bas found cosmic dust, but it has not found the oases of which it wasin search.

The main body of the party were stopped short at a comparatively early point. They started, on the 4th of July, from the west side of Greenland and made their way inland for 140 kilometers, reaching a height of 5,000 feet. Here the soft snow rendered it impossible for their sledges to proceed. The Laplanders who had accompanied them were then sent forward on foot with snow shoes, and made their way for another 230 kilometers in advance of the rest. The ground rose as they went, but the state of things remained otherwise substantially the same. There were higher mountains and more snow and ice, but no verdant plateau, and no sign whatever to give them hope that they were on their road to it. As for the cosmic dust, there seems to have been no need of keeping the intended keen look-out for it. There was dust every where, whether of cosmic origin or not, but curiously placed at any rate, and demanding to have its presence accounted for. Thus far, then, although Baron Nordenskjold has not been successful in forcing a passage from oue side of Greenland to the other, and although he has seen and heard nothing of the warm fertile interior he expected to find, he can claim at least to bave discovered something of the nature of an ice-covered continent, and to have shown the way to future discoverers who may be led to follow in his footsteps, and who may not impossibly outstrip him.
While this visit to the interior of Greenland was in progress, the rest of the expedition were exploring the northwest coast. Their results have been neither few nor unim portant. They have come back with rich collections of zoological, botanical, and geological specimens. Their report of the region is favorable for future visitors. The glaciers in the neighborhood are few and not great; the fiords are free from ice and likely, as a rule, to be accessible for suitable vessels during the summer months of the year. The expected cold current along the coast has been found to exist, but it is pronounced to be insignificant. In their subsequent visit to the east coast of Greenland, Baroı Nordenskjöld and his eompanions have been forestalled by earlier visitants, for they bave found Iraces of Norman remains some centuries old but from the fifteenth century to the present year there bave, Baron Nordenskjöld declares, been no ships :anchored here birt his own. In such circumstances the title of discoverer may fairly be considered to have lapsed, and to belong by right to the latest claimants, to Baron Nordenskjöld and his companions.
Sucb is the summary which Baron Nordeuskjöld sends us of the results be bas attained. He has struck out a new line and has added a chapter different from all the rest to the ecords of Arctic exploration. His work for this year is at an end, but it is not likely that he will be content with what he has done. It has not been his tirst voyage of exploration to Greenland, and we do not suppose it will te his last. The passage across Greenland remains still unaccompiished; possibly the mirage of the green lands of the interior remains still floating before Baron Nordenskjöld's eyes, and tempting him onward to test the reality of the vision.-Lon don Times.

## A Proposed New Pipe Line.

A number of Piiladelphia and Bost $1 ; \mathrm{n}$ capitalists have formed an orgauization which bas in view the laying of a ipe line from the new salt wells in Western New York to some point in the Lehigh coal region. The consumption of coal in the evaporation of brine at the wells is very considerable, and the projectors of the pipe line aver that the waste coal, or culm, that has accumu. lated in the coal regions, and cannot be utilized by any industry there, could be used to advantage in the evaporation of brine. Experienced salt men say that the brine running through the pipes would be llick with iron rust when it reached the works,and, unless some chemical action could be brought to bear on it to purify it, would be worthless.-Iron Age.
It is not true that the passage o! salt water through cast iron pipes would so far disintegrate the iton as to cause a discoloration of the water. Pipes of cast iron speedily take up the depositions of the water going through them, and do not make saline deposits when there is a current, and other deposits, alkaline or of ordinary minerals, are made nnly in a sluggish current. The use of salt water pipes on shipboard for exhaust steam and for pumps show the folly of this oljection to the pipe line, in consequence of the erosion of the pipe because the water is salt.

## Standard of Education

According to Ruskin, an educated man ought to know these things: First, where he is-that is to say, what sort of a world he has got into; bow large it is, what kind of creatures live in it, and how; what it is made of, and what may be made of it. Secondly, where he is going-that is o say, what chances or reports there are of any other world besides this; what seems to be the nature of that other world. Thirdly, what he had best do under the circumstances-that is to say, what kind of faculties be possesses; what are the present state and wants of markind; what is bis place in society; and what are the readiest means in his power of attaining happiness and diffusing it. The man who knows these things, and who has his will so subdued in he learning of them, that he is ready to do what he knows he ought, is an educated man; and the man whoknows them not is uneducated, though be could talk all the tongues of | not is u |
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| Babel. |

