

Scientific.

SCIENTIFIC AND MECHANICAL POSSIBILITIES.

Gas wells in various localities indicate that immense deposits of coal oil and petroleum exist in the earth, which may be at great depth; and New England may yet count it among her treasures, and large and enduring deposits which few now dream of, be found. We may burn it for fuel as well as for illumination; by its use steamboats may cross the ocean, and locomotives fly by its aid. We are just beginning to learn the power of this new servant that man has awakened from the sleep of ages. The country also abounds in limestone, sandstone and bituminous shales, which, by scientific and mechanical aid, may afford an almost never ending supply of this wonderful material.

And notwithstanding the seemingly advanced state of the means of transportation, it is inadequate to the present wants of man. Steamboats and railroads do not even meet the wants of our own country. New England and the Middle States want Western and Southern products; and vice versa, the West and South want Eastern products at cheaper rates. Can the possibility of aerial navigation be doubted? Every year is bringing us nearer a practical solution of this great problem.

If a light motive power is required, science may yet discover a cheap method of separating aluminum from our clay, some of which contains as much as thirty pounds of this most wonderful material to the ton. This metal is three times stronger than steel, and as light as chalk. On the very surface of the earth we daily walk over a material from which the machinery for a motive power may be constructed of about one-tenth the weight of iron or steel. In the oxygen of the atmosphere is abundant fuel which may be used to rarify the air for a motive power; other powers also exist in nature, which will, no doubt, yet become the servants of man. One discovery opens vast and expansive avenues, leading to unexplored regions, where munificent creative nature holds in store rich treasures which the scientific hand may drag from her dark arcana.—Scientific American.

BONED HAM.—Soak a nicely cured ham, the night before you wish to cook it, in tepid water. Next day, place it in a large dinner pot of water, of the same temperature, and boil it briskly eight or ten hours. Take it up in a wooden tray, let it cool, and carefully take out the bone; cut it clear at the hock and loosen it around the bone on the thick part, with a thin, sharp knife and slowly pull it out. Then press the ham in shape and return it to the boiling liquor. Take the pot off the fire and let it remain until cold. It is like beef tongue when cut across in slices.

SAVING THE PILES.—The piles of a San Francisco wharf have been cased in wood filled in with gravel, to protect them from the teredo. The teredo, a marine insect, dislikes to work its way through densely-packed gravel, and so limits its ravages to the outer boxes, which are easily replaced. This wharf is reputed to be good and firm, while others, built two years later, have become weak and dilapidated.

FERNS FOR TANNING.—Thousands of acres in Michigan, hitherto deemed utterly worthless because densely covered with a growth of sweet fern, prove to be very valuable, as this fern is a much more powerful astringent than hemlock, and far superior to that substance for tanning purposes, yielding forty per cent. extract where hemlock yields but fourteen.

CLEANING FURS.—A writer in the Household advises ladies who have furs to cleanse to take nice Indian meal in a large pan and rub them with it—using no water—nothing but dry meal, and they look as good as new.

RESUSCITATION.—A drowned man, who had apparently been dead for three hours, was resuscitated by a Belgian surgeon, by placing iron plates, heated to a white heat, over the vital parts of man's body.

PRESERVING MEATS.—A new process for preserving meats consists in dipping in melted butter, and then packing in salt.

Agriculture.

LIVE STOCK TO POPULATION.

Professor Theroold Rogers, of Oxford University, England, has made up a curious return of the proportion of domesticated live stock in the most prominent countries in the world. It shows the following results:— Great Britain: one cow to every 12 persons; one sheep to every person; and one pig to every 10 persons.

France has a cow to every 6 persons; a sheep to every person, and a pig to every 6 persons.

Sweden has a cow to every 3 1/2 persons; a sheep to every 2 3/4 persons; and a pig to every 1 3/4 persons.

Norway has a cow to 2 1/2—a sheep to 1—and a pig to 1 1/2 persons.

Denmark has a cow to 2—a sheep to 1—and a pig to 4 3/4 persons.

Prussia has a cow to 5—a sheep to 1—and a pig to 5 persons.

Wurtemberg has a cow to 4—a sheep to 2 3/4—and a pig to 7 persons.

Bavaria has a cow to 3—a sheep to 2 1/2—and a pig to 5 persons.

Saxony has a cow to 6—a sheep to 8—and a pig to 6 persons.

Holland has a cow to 4—a sheep to 4—and a pig to 12 persons.

Belgium has a cow to 7—a sheep to 9—and a pig to 8 persons.

Austria has a cow to 6—a sheep to 2—and a pig to 5 persons.

Switzerland has a cow to 3 1/2—a sheep to 5—and a pig to 7 1/2 persons.

The United States has a cow to 4 persons—a sheep to each person—and a pig to each 1 1/2 persons.

The Dominion of Canada is not included in Mr. Rogers' return—the figures not having yet been made public. So far as the province of Ontario is concerned, we think the census returns of 1871 (if they are ever forthcoming) will compare satisfactorily with those of any other country.—Canada Farmer.

CARE OF HORSES.—All horses must not be fed in the same proportions, without regard to their ages, their constitutions and their work; the impropriety of such a practice is self-evident. Yet it is constantly done, and is the basis of disease of every kind. Never use bad hay on account of its cheapness, because there is no proper nourishment in it.

Damaged corn is exceedingly injurious, because it brings on inflammation of the bowels and skin diseases.

Chaff is the better for old horses than hay, because they can chew and digest it better.

Mix chaff with corn or beans, and do not give the latter alone, because it makes the horse chew his food and digest it better.

Hay, or grass alone will not support a horse under hard work, because there is not sufficient nutritive body in either.

When a horse is worked hard its food should be chiefly oats—if not worked hard its food should be chiefly hay—because oats supply more nourishment and flesh-making material than any kind of food; hay not so much.

For a saddle or coach horse, half a peck of sound oats and eighteen pounds of good hay are sufficient. If the hay is not good, add a quarter of a peck more oats. A horse which works harder may have rather more of each; one that works little should have less.

Rack feeding is wasteful. The better plan is to feed with chopped hay from a manger, because the food is not then thrown about, and is more easily chewed and digested.

Sprinkle the hay with water that has salt dissolved in it, because it is pleasing to the animal's taste, and more easily digested. A teaspoonful of salt in a bucket of water is sufficient.

Oats should be bruised for an old horse, but not for a young one, because the former, through age and defective teeth, cannot chew them properly. The young horse can do so, they are thus properly mixed with saliva, and turned into wholesome nutriment.—London Horse Book.

NUTRITIVE VALUE OF GRASS.—Some interesting experiments have been made by the German chemists, on the nutritive value of meadow grass at different points of its growth and upon hay cut at different seasons. An elaborate series of analyses show that young grass is more nutritious than mature grass, and more easily digestible. Thus grass 2 1/2 inches high contains 50 per cent. more of albumenoids than

grass which is 6 inches high and about 10 per cent. more of "crude fat" (5.24 per cent. against 4.82). The mature grass contains more woody fibre and less ash than the young grass, and besides this, it is found that the nutritious albumenoids exist in a less soluble form in hay than in young grass. Hence the difference of nutritive value and digestibility. Autumnal hay was found to be more nutritious and digestive than summer hay. English agriculturists must make some qualifications to this result, inasmuch as it was obtained that German hay, grown in a much drier summer climate than ours. Similar experiments were made by E. Wolff on clover. He found that its digestibility diminished during the four weeks from the beginning to the end of flowering, while the digestibility of clover hay was about the same as that of green clover cut at the same stage of growth. The moral of this is obvious: Don't be greedy with your hay crops, by leaving them to grow so very tall. By so doing you not only lose the seed, which if fully ripe falls on the ground during harvesting, but you also obtain a less nutritive and digestible blade and stem. Better cut early, and utilize the after-grass.—Pravie Farmer, Feb. 8, 1873.

AN ESTABLISHED FACT!!!—One year's trial has proved the wonderful benefits arising from the use of the Nutritious Condiment of "THE NORTH BRITISH CATTLE-FOOD COMPANY OF LONDON AND GLASGOW," hundreds throughout this Province who have used it, testify that it is decidedly the best thing for seasoning the food of animals, especially HORSES, COWS and OXEN, during this season of the year, it is also the cheapest—one cent's worth seasons one meal, and effects a saving of twenty-five per cent. on the ordinary food. Get a small bag, and try it, and you will be satisfied. Sold in bags, at \$1 1/2, \$2 1/2, \$4 1/2, and \$8—a Pamphlet with full directions for use in each bag. Address, GEORGE FRASER, Manager, North British Cattle Food Co., 83 Lower Water Street, Halifax, March 26. 1m.

Joyful news for the Afflicted.

GATES' Life of Man Bitters

CALEB GATES, Esq., Aylesford, Feb. 7th, 1872. Mr. Caleb Gates—Dear Sir:—This is to certify that I have been troubled with the dyspepsia for about three years and have taken almost every kind of medicine within my reach that has been prescribed for the disease, but could find no relief. I took one bottle of your Bitters and one bottle of your Invigorating Syrup which effected a complete cure. You are at liberty to publish this for the benefit of other sufferers. I am, sir, respectfully yours, Mrs. W. H. GRAVES.

Sworn to before me, TUPPER, J. P.

Lunenburg, Nova Scotia, Sept. 1871. Mr. Caleb Gates,—Dear Sir,—I have very much pleasure in writing to you so that all may receive the same benefit from your Life of Man Bitters and Invigorating Syrup. I was much troubled last winter with a severe cold which continued to get worse until I feared it would settle upon my lungs. My cough was incessant. I could get no relief from any quarter or from any medicine man, until I accidentally fell in with your valuable Syrup. I now honestly on my oath state that one bottle of it gave me instant relief. I use it continually in my family and would not be without it on any account.

Several other persons with whom I am acquainted have also been cured by your valuable medicines. I shall be happy to give any further information concerning your medicines at any time. I have also been cured of palpitation of the heart by the use of Gates' medicines. One of my daughters was in a fearful state as regards a cough or cold, and she received immediate relief and a perfect cure, and can honestly recommend it to all young and old.

JAMES YOUNG. Sworn before me—one of her Majesty's Justices of the Peace for the County of Lunenburg. JAMES D. SELLIE, J. P.

PRICE. Bitters \$1 per quart; Syrup 50 cents per pint bottle; Linctum 20 cents per bottle and the ointment 30 cents per box. Address CALEB GATES & CO., Farmington, Wilmet, Annapolis Co.

A large number of certificates, similar to the above, have been received and will be published at times for the information of the afflicted and the people generally.

AGENTS.—George V. Rand, Wolfville. John Webb, Windsor. J. E. Newcomb, Hantsport. J. L. Cogswell, Kentville. Sheffield & Wickwire, Canning.

GENERAL AGENT, JOHN K. BENT, 126 Granville Street, Halifax. April 9.

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HALIFAX, N. S., APRIL 16, 1873. MESSENGER ALMANACK. APRIL, 1873. First Quarter, April 4th, 2h. 22m. afternoon. Full Moon, " 12th, 6h. 37m. afternoon. Last Quarter, " 20th, 1h. 33m. morning. New Moon, " 26th, 6h. 28m. afternoon.

Table with columns: Day, SUN., MOON., High Tide. Rows for various days of the month.

THE TIDES.—The column of the Moon's Position gives the time of high water at PARSBORO, Cornwallis, Horton, Hantsport, Windsor, Newport, and Truro.

High water at Pictou and Cape Tormentine, 2 hours and 11 minutes later than at Halifax. At Annapolis, St. John, N. B., and Portland Maine, 3 hours and 25 minutes later, and at St. John's, Newfoundland, 30 minutes earlier, than at Halifax. At Charlottetown, 2 hours 56 minutes later. At Westport, 2 hours 54 minutes later. At Yarmouth, 2 hours 20 minutes later.

FOR THE LENGTH OF THE DAY.—Add 12 hours to the time of the sun's setting, and from the sum subtract the time of rising.

FOR THE LENGTH OF THE NIGHT.—Subtract the time of the sun's setting from 12 hours, and to the remainder add the time of rising in the morning.

WINDSOR & ANNAPOLIS RAILWAY. CONDENSED TIME TABLE. DECEMBER, 1872.

Table for HALIFAX TO ST. JOHN. Columns: Miles, STATIONS, Exp. Pass. Ps.

Table for ST. JOHN TO HALIFAX. Columns: Miles, STATIONS, Exp. Pass. Ps.

N. B.—The Express Trains run on Monday, Wednesday, and Saturday only. Steamer "Scud" leave St. John on Monday, Wednesday, and Saturday, at 8 a. m., for Annapolis, and return same day on arrival of 8 a. m. Express Train from Halifax.

International Steamers leave St. John every Thursday at 8 a. m., for Eastport, Portland, and Boston. European and North American Railway Trains leave St. John at 8.00 a. m. and 3 p. m. for Woodstock, Fredericton, St. Stephens, Bangor, Portland, Boston, and all parts of the United States and Canada.

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