

Marquis of Lorne March

TH. GIESE, Op. 160, No. 6.

Tempo di Marcia

Musical score for the first part of the Marquis of Lorne March, featuring a piano and violin arrangement. The score includes dynamics such as *f* and *dimin.* and is marked *Tempo di Marcia*.

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Musical score for the second part of the Marquis of Lorne March, including a *CODA* section. Dynamics include *p* and *ff*. The piece concludes with *D. S. al - f - then Coda*.

Marquis of Lorne March.

SCIENCE AND INDUSTRY.

The introduction of paper spindles for yarn spinning, thus avoiding the objection to the great weight of steel as heretofore used, is said to have proved a decided advantage, and the process of manufacture is described as follows:—A quantity of common pulp stock is run into moulds the shape of a spindle, no attention being given to the whirl at this stage, and the cast of the mould is such that a spindle is produced about four times the required size in diameter. In the process of hardening, the soft flabby spindle is placed in a compress, as it is termed, a sort of hydraulic device in which a force pump is employed to give an enormous pressure; the spindle is placed singly in a peculiar shell arrangement, so made that, by revolving certain screws in the side compress upon the spindle from all sides, the latter is squeezed into a compartment about one-quarter its original size. The hydraulic power is used in making the apparatus turn, which gives motion to the numerous screws. When compression of the spindle is completed, a perfectly formed, hard, tough, substantial one is produced, and, when dried and polished, the surface is said to be as hard as metal. The whirled next made; again the moulds are used, and the same method of compressing is applied, the result being whirled of great strength and firmness.

The new system of smoke combustion adopted in some of the English plants is reported as proving decidedly satisfactory, as compared with previous arrangements. The apparatus is fitted in a furnace having bars four feet long, the height from the bars to the top of the furnace being fifteen inches; and, about seven inches from the far ends of the bars, an arch is placed five inches deep, by means of which the smoke is turned downward upon and through the fire. Below the bars a door is placed about three feet from the front, by means of which the amount of draught allowed at the back of the furnace is regulated, and a more equal proportion forced up the front. By this door the bars are kept cool, owing to the additional quantity of air, and thus preserved, and the air is thoroughly mixed with the smoke as it passes through the fire, thus assisting in its combustion. The published statements in this case show that by the use of such a system a saving of over twenty-five per cent. has been effected, the quantity of smoke has been greatly reduced and the residue from the furnace in the shape of cinders is diminished fifty per cent.

According to Prof. Dawson's latest theories, it would seem that, of the twenty million years allowed by physicists the time for the formation of the earth is present state, one million only are to be ascribed to the kainozoic or neozoic food, beyond which it is needless, he thinks, to look for man's existence, for reason that the earth's surface was not suitable for his habitation. In these last million years, too, there are the Miocene, Pliocene, and Pleistocene. In the first of these, the dimensions of the whole globe, as they are found; in the second, which were the Miocene, Pliocene, and Pleistocene, were perfectly dry will expand from one to two-tenths of one per cent, when soaked in

water, and a moist sheet will contract in drying to about the same extent. Being thus so little subject to contraction and expansion, the material is considered of special adaptation for floors in railway stations, hospitals, and similar buildings, and for decks of vessels, etc. It is also described as being readily planed, sawed, bored, and fashioned with ordinary wood-working tools, and may be painted or decorated in the same manner as wood, and is nearly waterproof, or may be made entirely so by being painted.

A very striking proof of the extreme elasticity of steel is exhibited in some experiments made at the Sellers works and described in the American Machinist. Three cylindrical steel posts, one and a half inches in diameter and ten feet long, were placed in a vertical position upon a steel disk, the three posts arranged in the form of a triangle; on top of these was placed another steel disk, and arrangements were made by which a pound weight could be very carefully placed upon or removed from the upper disk. An electrical contact was arranged in such a manner that any diminution of length of the columns would cause a bell to ring, and it was found that this pound weight was sufficient to make and break the contact, the bell continuing to ring so long as the weight was in place and stopping whenever it was removed. By experiments made upon specimens of the same bar of steel, and by calculation, it was determined that the steel bars were compressed about 1-14,000,000 of an inch, which, though but a small amount, showed that even the highest strain cannot be imposed upon such materials without a corresponding yielding, which yielding may or may not be disregarded according to circumstances; and to this fact, metal always yield under strain, is undoubtedly due much of the "wearing to a bearing" that is often considered necessary in new machinery.

Almost unique feature in the new lighthouse on one of the estuaries of the Gironde in France, is the use of a lamp which, burning continuously for two months without being trimmed or replenished, obviates the necessity of a keeper or attendant. The description states that the burning fluid used in this lamp is an ordinary mineral oil, the tube in the interior of the lamp is furnished with a wick having a thickness three times as great as that employed generally in lighthouses; and around the burning surface of the wick is a cake, made of a special preparation consisting largely of carbonized tar, this providing a sufficiency, a gauge is fixed at its side which governs the supply flowing in from another reservoir at a distance, this gauge permitting just fifty grams per hour to percolate through the little supply pipe into the supply reservoir. The diameter of the lantern is fifty-six inches. The intensity of the light keeps equal until the expiration of two months, when it is necessary to visit the lighthouse and replenish the wick; the latter is cleaned and drawn up gradually by the act on of the tar cake at its mouth.

An important feature is predicted in the Bautechniker for a new substance known as xylolith, or wood stone, a structural material composed of magnesia, cement, or calcined magnesite, mixed with sawdust and saturated with a solution of chloride of calcium, this paste mass, before the cement sets, being spread out into sheets of uniform thickness, and subjected to a pressure of more than a thousand pounds to the square inch. It is made in sheets from a quarter of an inch to an inch and a-half thick, and of all sizes, the dimensions being almost unchangeable by dryness or moisture. A sheet measuring one metre square when perfectly dry will expand from one to two-tenths of one per cent, when soaked in

water, and a moist sheet will contract in drying to about the same extent. Being thus so little subject to contraction and expansion, the material is considered of special adaptation for floors in railway stations, hospitals, and similar buildings, and for decks of vessels, etc. It is also described as being readily planed, sawed, bored, and fashioned with ordinary wood-working tools, and may be painted or decorated in the same manner as wood, and is nearly waterproof, or may be made entirely so by being painted.

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A NEWSPAPER REPORT. IT WAS READ BY AN OTTAWA GOVERNMENT OFFICIAL.

He Strongly Indorses Every Statement.

The Report was Published in the Ottawa "Citizen."

It Referred to a Wonderful Cure by Paine's Celery Compound.

Some weeks ago the Ottawa Citizen published the particulars of a most wonderful cure effected by Paine's Celery Compound. The fortunate lady who was enabled to throw off the deadly grasp of disease and suffering is well known by many outside of her own immediate district.

Scores of men and women were aware of the fact that Mrs. Nell McKay, of North Hill, Lingwick, P. Q., had been doctoring for a long time, but all the best efforts of her physicians were of no avail. Her strength was all gone; she was extremely weak, and had great difficulty in moving about. A few years ago she was a woman who weighed 185 pounds; sickness and disease reduced her to a mere shadow.

Mrs. McKay, at a critical period, determined to test the curing virtues of Paine's Celery Compound. The first bottle proved that it contained the elements that could banish trouble and sickness. The medicine was continued, with the result that seven bottles made her a new woman.

These facts appearing in the Citizen, and read by Mr. Chas. W. Ross, of the Department of Railways and Canals, Ottawa, caused him to write the following letter:—

"I have just seen in the Citizen another proof of cure by the use of Paine's Celery Compound, and I now write to corroborate the statements of Mrs. Nell McKay and Mr. Pennoyer, postmaster, of Gould, Lingwick, Que. I have personally known Mrs. McKay for a number of years, having been a resident of Lingwick for 30 years; she was one of my customers for ten years, and I have seen her at times not able to walk. She has been treated by several doctors without any apparent relief until she began to use Paine's Celery Compound; and though I am now a resident of Ottawa, I have had occasion to see Mrs. McKay two or three times a year, and know the statements in her case to be wholly correct."

Every cure made by Paine's Celery Compound in Canada can be endorsed and vouched for as strongly as Mrs. McKay's wonderful case. No false statements are ever allowed to be made regarding the great cures reported from week to week by the Canadian press. The cures made by Paine's Celery Compound are the only cures that stand through investigation.

THE NEW TARIFF FINISHED.

The Farmers Looked After. The new Customs tariff is now through the Committee of Ways and Means, and therefore we are able to present our readers with some of the changes that have been made. We give below some of its more important features.

Seventy-one articles are free that were dutiable in the old tariff. Ten articles conditionally free in old are unconditionally free now.

Among articles made free are the following: Bibles, prayer books, hymn books, psalm books, coke (of great importance in cheapening manufactures); fertilizers (uncompressed); smelting machinery; lumber (dressed on one side or undressed); hubs or wheels, etc.; laths, pickets, shingles; salts of quinine; olive oil for making soap, canning fish, etc.; globes for schools, sugar of lead; flax fibre; marble in the rough; books for mechanics' institute libraries.

A number of raw materials also in order to cheapen the cost of producing goods. The gain here is to the consumer.

The Government became convinced that in the Northwest and Manitoba there was a combine in lumber. They therefore put rough lumber on the free list. They were afterwards convinced that this would not completely break the combine; lumber dressed on one side was therefore made free also.

Sugar in old tariff up to and including No. 14 was free; new tariff makes up to and including No. 16, free. Thus most of the bright sugars are made free. Duty on granulated sugar is reduced from 8, 10th of a cent to 64, 100 per lb.

The protection on grains, meats, etc., is left practically where it was.

An offer is made of reciprocity in ripe apples, beans, buckwheat, peas, potatoes, rye, rye flour, hay, and vegetables.

The act also says to the people of the U. States: "You take our barley free, and we will take your corn free."

Duty on live hogs was at first made an ad valorem duty of 25 per cent. The farmers asked that it be returned to specific, which was done. It is now 14 cents per lb. The duty on pork has been raised.

Agricultural implements, mowers, reapers, binders, and all sorts of such implements used by the farmer, have been reduced from 35 per cent. to 20 per cent.

Pumps of all kinds reduced from 35 per cent. to 30 per cent.

Barbed wire fencing reduced from 14 cents per lb. to 12 cents per lb.

Buckthorn and strip fencing reduced from 14 cents to 12 cents per lb.

White and common soap reduced from duty of 24 cts. up, to 1 ct. per lb.

Canned tomatoes, vegetables, old tariff, 3 cts. per lb.; new, 1 1/2 cts. per lb.

Clocks of all kinds reduced from 35 per cent. to 25 per cent.

Furniture reduced from 35 per cent. to 30 per cent.

Coffins, caskets, etc., reduced from 35 per cent. to 25 per cent.

Stamped tinware and galvanized ironware from 35 per cent. to 25 per cent.

Bells reduced from 30 per cent. to 25 per cent.

Spades and shovels, old tariff \$1 per dozen and 25 per cent.; new tariff 50 cts. per dozen and 25 per cent.

Scythes, etc., reduced from \$2 per doz. and 10 per cent. to 35 per cent. only.

Axes, which were \$2.40 per dozen specific, are now 35 per cent. only.

Sewing machines which were \$3 each and 20 per cent., are now 30 per cent. only.

In scythes, axes, spades and shovels and sewing machines, the change from the specific to the ad valorem is a great reduction.

Clothes wringers in old \$1 each and 30 per cent.; in new 25 cents each and 20 per cent.

Cut nails reduced from 1 cent per pound to 1/2.

Cut tacks reduced from 2 cents per 1,000 to 1 1/2 cents per 1,000.

About \$10 per ton is taken off axes, springs, etc.

Wire nails reduced from 14 cents per pound to 1 cent per pound.

Harness and saddlery reduced from 25 per cent. to 30 per cent.

Belting reduced from 25 per cent. to 15 per cent.

Putty reduced from 25 per cent. to 15 per cent.

Turpentine reduced from 10 per cent. to 5 per cent.

Paints reduced from 3 cents per pound and 25 per cent. to 25 per cent. only.

Blueing reduced from 30 per cent. to 25 per cent.

Ink reduced from 25 per cent. to 20 per cent.

Shoebacking reduced from 30 per cent. to 20 per cent.

Fine olive oil, for dainty dishes, raised from 20 per cent. to 30 per cent.

Lined oil, important in a great number of manufactures, old tariff 1 1/2 per pound, new tariff 20 per cent. only. This reduction will reduce prices of many manufactured articles to the consumer.

Essential oils, old 30 per cent., now only 10 per cent.

These are a few of the large number of reductions.

THAT BEAUTIFUL HAIR.—Often is the remark passed, "She (or he) has beautiful hair!" Indeed, many use their hair shamefully—wash it, scrub it, and overdo other things with their hair, such that it cannot hold out forever. The nourishment to the roots of the hair gets disturbed and removed, and nothing remains to stimulate it and to keep it alive. Take a warning in time. Use a little of Dorenwend's German Hair Vigor as a dressing regularly, and your hair will be in first-class condition. It will restore the gray hair and promote its growth, and remove the dandruff and other scalp diseases. It is for sale by all druggists. Be sure and get Dorenwend's, and your hair will improve sure and quick.

Do you use soap? Why not use Wide Awake, then; it is guaranteed absolutely pure, and is the best in the world.