## NEW BOOKS AND PUBLICATIONS

Cyclopedia of Comimercial and Business Anecdotes. D. Appleton \& Co., 443 Broadway.
Under this somewhat incongruous title the Messrs. Appleton announce a new work, to be published by subscription. The book is a collection, original and selectel, of the choicest, most striking, and recherche anecdotes of merchants, bankers, mercantile celebrities, millionaires, \&c., and comprisesinteresting reminiscences and facts, with notable sayings and witticisms. It is in no sense intended as a work of biography, or collated facts, only so far as either of these are anecdotically illustrative of business character or dealing, in the various aspects of the ingenious, the mirthful, and the wonder-exciting. It is the first work of the kind which has ever appeared in this or any other country, devoted to the humorous phase of trade and traders. The anecdotes in this Cyclopedia pertain to the celebrities of traffic in all ages and nations, such as Astor, Rothschild, Girard, Baring, Lor illard, Peabody, Lawrence, Hope, Touro, \&c. Every library of note in the largest cities of the country has been explored fo: the materials of the work, and the best private sources within the circle of men of letters have also been resorted to. It has occupied the time of the author for fifteen years. In every case, an anecdote which could not stand a fair test of authenticity, has been rejected.

The work will be illustrated with forty steel portraits of noted merchants of Europe, Asia, and America, as well as wood-cuts of amusing incidents in their lives, and views of many business localities.
The work will be published in two large volumes, ootavo, over 400 pages each. Price $\$ 6$.
Elocution, Calisthenics, and Gymnastics. By J. Madison Watson. Published by Schemerhorn, Bancroft \& Co., Ncw York and Philadelphia.
If people can ljecome healthy by good instruction, then this handsomely bound and printel book will accomplish a most important mission. Too little attention is paid to physical cultivation in this country, and our people are becoming ciseased, shorn of vitality, benumbed intellectually in consequence ; this is strongly asserted by eminent physiologists and medical men, and the experience of every careful observer warrants the assertion. In the work here noticed the author has collected a great deal of excellent instruction upon the subject of physical cultivation, relating not merely to the improvement of the body itself, but to the organs and members composing it. Under the head of "Vocal Gymnastics" there are treatises upon respiration, articulation, analysis of English words, and a great deal of other matter relating to intellectual improvement. The author has discovered that mere climbings, standing on the head, \&c., are not the only means for bringing life and health to exhausted or imperfectly developed frames; and he therefore combines mental discipline, or rather exercises the organ of speech in the same way that he does the other parts of the body. The work is profusely illustrated with admirable engravings, and the positions of the pupil or pupils in the several exercises are clearly portrayed; the dumb-vell and its uses, as also the club and rings, together with motions and positions independent of their use, are treated at length. For schools and educational institutions this work will, no doubt, become a standard one, and the individual reader will obtain a great deal of information from its pages.
Astronomical and Meteorological Observations.
We have received from the United States Naval Observatory, Washington, under the superintendence of Capt. J. M. Gilliss, U. S. N., a very large valume, of 700 pages, filled with tables of astronomical and meteorological observations made during the year 1862. We are surprised that in so extensivea meteorological observatory no better means are had for observing the direction and force of the wind. The direction is judged by looking at the weather-vane which cannot be seen in dark nights, and the force is simply guessed at. If the rane was mounted on a light rod which extended downward into a warm room, and bore upon its lower end an index traversing a graduated circle, the direction of the wind might be known to a single degree at any hour of the day or night. And, certainly, some of the instruments for measuring the force of the wind are more to be trusted than simple guesses.

Squadron Tactics under Stean. Published by D. Yan Nostrand, 192 Broadway, New York.
In this useful work to navy officers, the author, Commander F. A. Parker, demonstrates--by the aid of profuse diagrams and explanatory text-a new principle for manœuvering naval vessels in action. The author contends that the winds, waves, and currents of the ocear oppose no more serious obstacles to the movements of a steam fieet than do the inequalities on the surface of the earth to the mancuvres of an army. It is in this light, therefore, that he views a vast fleet-simply as an army ; the regiments, brigades, and divisions of which are represented by a certain ship or ships. The work of Sir Howard Douglas, "Naval Warfare," and the Tactique Navale of the French, are the only authorities on steam tactics which are worthy to be consulted ; the English work is useful, but establishes no fixed system of manœuvering, while the French work is considered by officers of our service as being by far too intricate. The author says it has been his aim to combine simplicity of formation with celerity of execution ; and he modestly leaves the verdict upon his labors with his readers ; that it will be favorable to him we have no doubt. The volume is handsomely bound with blue and gold embossing, printed on fine paper, and profusely illustrated with 77 engravings.
The Nef York State Business Directory for 1864. Adams, Sampson \& Co., No. 91 Washington street, Boston, Mass.
This volume contains a large amount of information of the greatest importance to business-men, as it gives the names and addresses of the principal firms in all branches of business throughout the State of New York; also the population of the State, towns and post-offices, manufacturing companies, insurance companies, banks, steamship lines, newspapers, magazines with the terms of subscription to same, colleges and academies; also a large and well compiled list of merchants, manufacturers and busi-ness-men generally, outside of this State. A book containing all these important matters is always convenient as a work of reference, and we do not see how it can be dispensed with.

## The Newport Fisheries.

The Newport Neics says:-"Few people, either within or without the State, have a correct idea of the extent and value of the fisheries carried on by the citizens of Newport and the neighboring towns. We are informed by parties interested that last year not less than 200,000 barrels of Menhaden were caughtin the waters surrounding our island, together with great quantities of fish of other kinds. These Menhaden are chiefly used in the manufacture of oil, of which about three hundred thousand gallons were produced by the different factories in operation. This oil, worth in the market ninety cents a gallon, yields no little revenue to those engaged in the business, and, as will be readily seen, adds much to the material resources of the State.
" There are in Rhode Island thirteen oil factories, employing about 250 hands. Another is in process of construction near the coal mines in Portsmouth, which will cost about $\$ 40,000$. It is expected that it will be ready to use during the coming season. There is, in fact, every indication that this branch of business will be greatly enlarged. Five new companies of fishermen have just been organized with about forty men and an aggregate investment of $\$ 20,000$. This, of course, makes business for our boat-builders and seine manufacturers, who at present have more than they can do. An establishment in Tiverton has a contract for two thousand dollars' worth of these boats, and persons in Bristol have another for over two thousand dollars, while parties here have engagements for more than four thousand dollars. Other builders doubtless have similar con tracts, though we are not able to state the amounts.
"In Portsmouth, Capt. Benjamin Tallman, the oldest and most successful seine fisherman in Rhode Island, is adding about six thousand dollars to his already large establishment, and is otherwise preparing for a vigorous campaign. He employs about forty men, and is honored as the inventor of what is known as trap-fishing. In the estimation of those who know him he is the real live king fisher of the island, like Saul of ancient time, standing head and shoulders abore his brethren,
"In addition to the income from the oil extracted from these fish, the guano manufactured from the refuse brings in quite a little sum. One hundred barrels of Menhaden produce two and a half tuns of this article, which is a great fertilizer, and sells readily in bulk at $\$ 15$ a tun. From the income thus secured those engaged in the Rhode Island fisheries seem to be doing a most profitable business, and it is said that some of the gangs cleared last year over one hundred dollars a month. Of course, the profits of the capitalists were large, as is evident from the prospective increase of the capital and labor devoted to the work."

## MISGELLANEOUS SUMMARY.

How to Measure Coal.-Coal put into bins and eveled can be measured, from one to a thousand tuns, with às much accuracy as it can be weighed on scales. For instance, Lehigh white-ash coal per tun of 2,000 pounds, of the egg or stove size, will uniformy measure $34 \frac{1}{2}$ feet cubical, white-ash Schuylkill coal will measure 35 , and the pink gray and red-ash mill reach 36 cubical feet per tun of $2,000 \mathrm{lbs}$. or 40 feet for 2,240 pounds, the difference of cubical contents between the net and gross tun being exactly 4 feet. If the length, breadth and height of the bin be multiplied together, and the product divided by the aforesaid conteats of a tun, the quotient must show the number of tuns therein.-Troy (N. Y.) Advertiser.
Elevation of the Woriing Classes.-"I have no sympathy whatever with those who would grudge our workmen and our common people, the very highest acquisition which their taste, or their time, or their inclinations, would lead them to realize; for, next to the salvation of their souls, I certainly say that the object of my fondest aspirations is the moral and intellectual, and, as a sure consequence of this the economical, advancement of the working classes -the one object which, of all others in the wide range of political speculation, is the one which should be the dearest to the heart of every philanthropist and every true patriot."-Chalmers.
Rat-sin Gloves.-An exchange says:-"It is rumored that a company of Frenchmen has been formed in Chicago, for the purpose of catching all the rats possible, curing their skins and exporting them to Paris, to be used in the manufacture of gloves. For years what is called 'French kid' gloves have been made from the skins of these animals, caught in Paris and other parts of Europe; but the demand being greater than the supply, it has become necessary to extend the rat-catching arrangements to America, and no finer field than Chicago for such operations can possibly present itself."
The London Grocer says:-"The proprietor of the Hull Sugar Refinery commenced working Viller's patent process last week. This is the first attempt to manatacture refined sugar under this patent. Its principle is the evaporation of solutien of sugar in a pan heated by steam, at $212^{\circ}$ Fahr.; but the evaporating liquid is kept much below this temperature by freely exposing a large surface of it to the air, and this is accomplished by having a revolving cylinder partly in the air kept in constant motion, so that fresh portions of the liquid are continually carried through the air upon the surface of the cylinder."
Metallic Flags for Soldiers' Grates, Battlefields, \&C.-A patriotic correspondent suggests that a beautiful tin, copper, steel or iron flag, of suitable size, ought to be placed upon each of the headstones or monuments of all officers and privates who have been killed, or who have died in the service during the rebellion; these flags being purchased by the friends of the deceased, by societies, cities, towns, counties, States, or the national Government. He also suggests that a very large iron flag should be upreared on every important battle-field or national cemeters.
Treatment of Hiceur.-This may often be removed by holding the breath, by swallowing a piece of bread, by sudden tright, or by a draught of weak liquid. When it arises from heat and acidity in the stomachs of children, a little rhubarb and chalk will remove it. Should it proceed from irritability of the nerves, take a few drops of sal volatile, with a teaspoonful of paregoric elizir. If it still continue, rub on soan liniment, mixed with tinctare of opium, or a
plaster may be put on the pit of the stomach, or sipping a glass of cold water with a little carbonate of soda dissolved in it.

Taxation.-During the last session of Congress, a manufacturer went to Washington to get the three-per-cent tax removed from the article he produced, and the following conversation is said to have occurred between him and a member of Congress:-
Manuf: " I eame on, sir, to get relief from an oppressive burden on my branch of business. There are particular reasons why the article I make should be exempted from the three-per-cent tax."
M. C.: "What amount do you manufacture annually?"

Manuf.: "One hundred thousand dollar's worth, on which I pay $\$ 3,000$."
M. C.: "And you reckon the tax you pay as a part of the cost of your article, and add it to the price, do you not?"

Manuf.: "Why-yes, sir."
M. C.: "What average profit do you calculate to make on your goods?"
Manuf. : "Fifteen per cent."
M. C.: "Then you make fifteen per cent on the amount you pay in tares, which, if it be $\$ 3,000$, will give you $\$ 450$ more protit than you would get if you paid no taxes. Is it not so ?"
The gentleman had no answer prepared to this question, and the conversation ceased.
Our Machinery.-What a contrast does the work of the machinists of the present day present to those of a hundred years ago! At one time, as Mr. Smiles observes, an engine of any size, when once erected, required the constant attention of the engineer, who almost lived beside it in order to keep it in working order, such was the friction of its parts and the clumsiness of its construction. At the present time, however, almost absolute perfection of working is obtained. When the 5,000 different pieces of the marine engines designed for the Warrior were brought together flom the different shops of the Messrs. Penn, although the workmen who built them up had never seen them before, yet such was the mathematical accuracy of their fit that, immediately steam was got up, they began working with the utmost smoothness. As a new-born child, as soon as it enters the world and expand its lungs, begins to stretch its limbs, so .his gigantic engine, immediately steam began to expand in its cylinder, at once exerted its huge members with the smoothness and ease of a thing of life. -Cnce a Week.
Conscientious Tradesmen.-Messrs. E. and J. J. Neave, of Leiston, England, have issued the following circular to their customers:-"E. and J. J. Neave, grocers, \&c., Leiston (Suffolk), respectfully inform their friends and the public generally that they have long seen the injury that the use of tobacco is inflicting on their fellow-men, and the many evils that directly and indirectly arise from it; and feeling that they cannot continue the sale of it with clear consciences, give notice that, on and after- , they will cease to sell tobacco, snufi, and cigars."
At the Government tailoring establishment at Millbank, England, where the army clothing is made, and about 60 sewing machines driven by steam are in operation, the material is cut out by machinery. A sharp thin endless ribbon of steel revolves like a band saw over puileys driven by steam, and the cloth 6 to 8 inches thick, with the pattern chalked on the upper layer, is applied to the revolving knife, which rapidly and smoothly cuts it to the required shape; the hand of the workman leing simply employed to guide the cloth so that the knife follows the chalked pattern.
To distinguish Artificially-colored Wines.-M. Blume gives the following simple test:-"Saturate a piece of bread crumb with the wine to be tested, and place it in a plate full of water. If the wine is artiticially colored, the water very soon becomes colored reddish violet; but if the coloring matter is natural, the water, after a quarter oi half an hour, is but very little colorel, and a slight opalescence only is perceptible. The test depends upon the difficult solubility of the real coloring matters of wine in water free from tartaric acid."
Sore Eyes.-A little alum boiled in a teacupful of milk, and the curd used as a poultice, is excellent for inflammation of the eyes,

The Legs or Insects.-M. Delisle once observed a fly, only as large as a grain of sand, which ran three inches in half a second, and in that space made the enormous number of five hundred and forty steps. If a man were to be able to run as fast in proportion to his size, supposing his step to measure two feet, he would in the course of a minutc, have run upwards of twenty miles, a task far surpassing our express railroad engines, or the famous "Seven League Boots" recorded in the nursery fable. In leaping, also, insects far excel man, or any other animal whatever. The flea can leap two hundred times its own length; so also can the locust. Some spiders can leap a couple of feet upon their prey.
English and French Iron-clads.-The London Engineer says:-A comparative statement of the armor-plated ships in England and in France shows that we have ten iron frigates afloat, six nearly ready, and five in various stages of construction, against the French six, two, and six respectively. The Times pronounces strongly against the system of plating wooden-built ships. In two vessels now buildingthe Lord Warden and the Lord Clyde-we shall save $£ 10,000$ by having a wooden frame, and lose $£ 200,000$ by the speedy decay of the wood as compared with iron.

## NEW YORK MARKETS.

[Weer ending march 9, 1864.|

## Ashes-Pot, pearl, $\$ 875$ to $\$ 10$ per 100 lb

Ieesicax-55c. per lb .
read-pilot, navy, 2nd cracisers. $43 / 4 \mathrm{c}$. to 8 c . per lb .
C'andles-Adamantine, stearine and sperm, 2lc. to 45 c . per lb
Cement-Rosendale, $\$ 175$ per barrel.
Coffee-Java, 42c. per lb.; Rio, 37c.; St. Domingo, 331\%c. Copper-American ingot, 39c. per lb.; bolts, 46c.; Sheathing, 46c. 61/2c.
Cotton.-Ordinary, 88 c . per lb.; Middling, 77c.; Fair, 82 c .
Domestic Goods.-Sheetings, brownstandard, 42l/2c. per yard; Sheet ings, brown, seconds, $40 \frac{1}{2}$ c. to $41 \frac{1}{2} \mathrm{c}$.; Shirtings, brown, $7-8$, standard 36c; Sheetings and Shirtings, bleached-Wamsutta and New York Mills 42 c . to $42 \hat{2} \mathrm{c}$.; Lonsdale, White Rock, \&c., 36 c . to 37 c .; other makers 19 c . to 35 c . ; Drills, brown, Amoskeag, 42 c . to $42 \frac{1}{2} \mathrm{c}$.; Drills, other, 32 c . to 38 c .; Ticks, York 60 c . to 65 c . ; Ticks, Amoskeag $42 \frac{1}{2} \mathrm{c}$. to 63 c .; Ticks, other $23 \frac{1}{2}$ c. to $47 \frac{1}{2} \mathrm{c}$.; Prints, Merrimack 23 c .; Prints, Sprague's 21c. to 22c.; Prints, Dunnell's 20c. to 21c.; Prints, other 1 cc to 21 c .; Ginghams, Clinton 28 c .; Giughams, other 21c. to 27 c .; Cot tonades, York 40c. to 60 c .; Cottonades, York Mills 45 c . to 70 c .; Cotton ades, other 55c. to 70c.; Cotton Jeans, Laconia, \&c., brown and bleached 38 c .; Cotton Jeans, other $231 / 2 \mathrm{c}$. to 25 c .; Cotton checks, $18 \frac{1}{1 / \mathrm{c}}$. 31c. to 10 .; Cambrics, $2 l$. to 10 ., Cotto 1 . c. to 4oc., Cloth, an Duecods Duty Free,-Fustic $\$ 36$ per tun; Loswood $\$ 2350$

## 35; Lima Wood, $\$ 95$ to $\$ 100$; Sapan, $\$ 90$

Feathers-63c. per lb.
Furs.-Otter, $\$ 6$ to $\mathbf{\$ 7}$ skins; Fox, grey silver, $\$ 6$ to $\$ 10$; Bear, $\$ 15$ o $\$ 20$; Lynx, $\$ 3$ to $\$ 350$; Marten, $\$ 3$ to $\$ 20$; Muskrat, 20 c . to 25 c . Flax-19c. to 24 c . per lb.
Four and Meal-\$6 45 to $\$ 1050$ per barrel; RyèMeal, $\$ 550$ to $\$ 640$.
Grain.-Wheat, $\$ 161$ to $\$ 2$ per bushel; Rye, $\$ 1$ 30; Barley, $\$ 12$ to $\$ 150$; Oats, 86 c. to 91 c .; Corn, $\$ 129$ to $\$ 136$; Peas, $\$ 18$; Beane $\$ 265$ to $\$ 3$.
Hay-\$1 35 to $\$ 140$ per 100 lbs
Hemp.-American (dressed), $\$ 275$ to $\$ 300$ per tun; Russian, $\$ 425$ ute, $\$ 275$ to $\$ 280$.
Hides.-City Slaughter, 12 c . to $123 \% \mathrm{c}$.; other varieties range from 4c. to 34 c .
Honey.-99c. to \$1. per galion.
Hops. -27 c . to 35 c . per lb.
Indigo.-Bengal, $\$ 160$ to . per lb .
Iron.-Scotch pis $\$ 00$ to $\$ 250$ per lb.; others, 90 c. to $\$ 2$ Swedes (in gold) $\$ 90$; Eno $\$ 51$ per tun, American, $\$ 46$ to $\$ 48$; Bar to8 $1 \frac{1}{2} \mathrm{c}$.
Lead.-American, $\$ 1075$ per 100 lbs.; English, $\$ 11$ 75; Pipe, $14 \frac{1}{2} \mathrm{c}$. Louther.-Oak-tanned, 44c. to 53c. per 1b.; Hemlock, 23c. to 41c Lime. - $\$ 135$ to $\$ 160$ per barrel.
Lumber.-Spruce, $\$ 18$ to $\$ 20$ per 1,000 feet; White Oak, $\$ 35$ to $\$ 40$ White Oab Staves, $\$ 40$ to $\$ 180$; Maloganytcrotches, $\$ 145$ to $\$ 150$ per foot; Roserwood, 4c. to 15 c . per lb.
Molasses.- 55 c . to 78 c . per gallon
Nuils.-Cut, $\$ 625$ per 100 lbs.; Wrought, 3le. to 36c. pergb
Oils.-Linseed, $\$ 158$ to $\$ 160$ per gallon; Sperm, $\$ 162$ to $\$ 185$; Pe oleum, 49c. to 62 c .
to $\$ 30$ per barrel; Pork, $\$ 14$ to $\$ 23$; Butter, 27 e 33c. per lb.; Cheese, 13 c . to 16 c .
Rice. $-\$ 675$ to $\$ 875$ per 100 lbs .
Salt.-Turk's island, 48c. per bushel; Liverpool fine, $\mathbf{\$ 2} 50$ per sack
Sultpeter.-17c. to 21 cc . per lb.
Spelter. $-111 / \mathrm{c}$. to 113 c . per lb.
Spetter.--11/2. to
Stel.-English, 20c. to 28c. per lb.; German, 10c. to 17c.; America blister, 12c. to 18 c .; American spring, 1le. to 14 c .
Sugur.-Brown, $141_{1}^{1} \mathrm{c}$. to $15{ }_{1}^{1} \mathrm{c}$. per lb .; White, $15 \mathrm{c} \%$. to $16 \%{ }_{2} \mathrm{c}$
$T_{\text {ett }}-38 \mathrm{c}$. to $\$ 155 \mathrm{per} 1 \mathrm{~b}$.
Tullor.-American, $12 \frac{1}{2}$ c. to $12 \frac{3}{3} \mathrm{c}$. per lb .
Tin.-Banca, 5tc. to 5 éc. per 1b.; English, 48 c .; plates, $\$ 1350$ to $\$ 10$ per bou.
 tates wrappers, 15 . to 45 c . ; Manufactured, 55 F . to $\$ 125$.
Wool--American Saxony fleece, 75c. to 85c. per lb.; Merino, 75c. to先. ; California, 25 c . to 55 c .; Foreign, 16 c . to 60 c .
Zine. $-143 / 3 \mathrm{c}$. to 15 c . per lb .

## Lead as a Yoison.

The large number of persons who die annually from the poisonous effiects of lead should put people more on their guard, as this metal is used in a great variety of forms for the convenience of man, on account of its cheapness, and the many desirable qualities it possesses over other metals. This metal is a slow but powerful poison in all its forms when taken internally, and often its effects are not manifest until too late. Every family, therefore, should avoid using vessels lined with lead for cooking or keeping pro visions in, also the use of this metal for the convey ance of water, as pure water will dissolve the inside of the pipe without the presence of some protecting salt, which forms an insoluble coating and prevents further action ; even then there is danger. If you already have lead pipe, the simplest precaution is always to draw off the water contained in it before sav ing any for use. There is also too much imprudence among the working class with regard to this poison the painters in their use of white lead and litharge, plumbers eating with hands soiled by particles o this metal, also in the manufacture of glazed cards, glazed carthenware, \&c. Many examples of the de structive effects might be cited, but it is unnecessary as hardly a week passes but we hear of sickness o death from the effects of the substance in question sometimes caused by ignorance of its nature, oftene by carelessness. Our people drink their poisoned coffee at the breakfast table, poisoned wine at dinner and poisoned tea at supper ; daily mingling, little by little, this unseen destroyer with their food. More caution should be manifested by all, and especially by those engaged in the manufacture of the compounds of lead, and the application of them to the arts.

## Crash of a Wind-wagon

Several of the French papers publish the following account :-
" Recently a curious spectacle collected four or five hundred persons on the Place d'Ault, Department of the Somme. This was the trial of a mechanical car riage, invented by the man who carries the mail be tween Woincourt and Ault. The carriage was arranged to be propelled by a screw driven by the wind. The departure was effected with a little diff culty in consequence of the hill which it is necessary to mount in order to reach the route from Saint-Vale ry to Eu. Arrived there, however, the evolutions succeeded to a marvel, amid the applause of the curious, who had followed the vehicle. But it was not the same in returning to Ault. The descent drew the carriage and its conductor with a speed equal to that of an express train, and this speed, which increased every moment, would infallibly have taken the car to the base of the coast, had not the inventor decmed it urgent, for his safety, to turn his locomotive against the end of a house which was by the side of the road. The gable was crushed in, and the ruins fell upon a lot of rabbits which were below, killing some and wounding others. The inventor happily escaped uninjured."

## The Wonders of a Watch.

There are very few of the many who carry watches who ever think of the complexity of its delicate me chanism, or of the extraordinary and unceasing labor it performs, and how astonishingly well it bears up and does its duty under what would be considered very shabby treatment in almost any other machinery There are many who think a watch ought to run and keep good time for years without even a drop of oil who would not think of running a common piece of machinery a day without oiling, the wheels of which do but a fraction of the service. We were forcibly struck with this thought the other day, upon hearing a person remark that, by way of gratifying his curi osity, he had made a calculation of the revolutions which the wheels in an American watch make in a day and a year. The result of this calculation is as suggestive as it is interesting. For example: The main wheel makes 4 revolutions in 24 hours, or 1,460 in a year; the second or center wheel, 24 revolutions in 24 hours, or 8,760 in a year; the third wheel, 192 in 24 hours, or 69, 080 in a year; the fourth whee (which carries the second-hand), 1,440 in 24 hours or 525,600 in a year; the fifth, or 'scape wheel, 12,960 in 24 hours, or $4,728,400$ revolutions in a year; while the beats or vibrations made in 24 hours are 388,800 , or $141,812,000$ in a year. -Lancaster Express.

