

## IN SPIRIT OF TARIFFS

### PRICES DECLINE BECAUSE OF IMPROVEMENTS.

Some "Facts" Demonstrating That There Are Far More Potent Influences Than the Tariff Governing the Prices of Commodities—Must Be No Delay.

#### Some Plain Facts.

In a recent article the New York Tribune states that "in a whole generation of continuous protective duties here and continuous free trade in Great Britain prices of American products have been reduced almost exactly as much, in spite of the addition of duties said to be intolerable to consumers, as prices have been reduced in Great Britain during the same time." This fact demonstrates that there are far more potent influences than the tariff in governing the prices of commodities—a truth which the protectionists obstinately refuse to recognize. In a well-known work Mr. David A. Wells, the eminent economist, has reviewed the causes that have produced the great revolution in trade, the results of which are recorded in statistics of prices.

Chief among these causes are inventions and improvements of labor-saving machinery, discoveries of new materials of manufacture, better organization of labor, and the cheapening and extension of means of transportation by land and sea. These mighty agencies for supplying the wants and increasing the comforts of mankind have overcome in great degree the obstructive methods of tariff-mongering legislation. It would be tedious to recount the labor-saving inventions and discoveries within this generation that have multiplied the products of the factory and field, and vastly cheapened their cost throughout the world in spite of jealous tariff restrictions upon trade.

In further comparing the statistics of prices, the Tribune finds that "greater cheapening of products has been realized by Americans than by the people of Germany," and it concludes: "Though Germany has prospered greatly under protection, it has neither made such progress in industries as this country, nor realized as great a cheapening of products to consumers." In certain lines of industrial progress, notably in the application of chemical discoveries to manufactures, the Germans have not realized as cheapness as have people of this country and of free-trade England. Germany has been subject to a corn law system (somewhat mitigated recently) which has much enhanced the cost of breadstuffs and provisions to her consuming millions. In Great Britain, on the other hand, these commodities are free of tax; while in this country the McKinley duties on them, for the sake of protection, are mere trifles. This is what serves to explain the statistical phenomenon in regard to Germany mentioned by the Tribune. It is not pretended that other commodities besides food supplies are dearer in Germany than elsewhere. Let the duties be taken off the bread and meat of the Germans, and the phenomenon would disappear.

For the rest, the fact remains that the tariff makes the cost of textile fabrics of nearly every description, of many manufactures of iron and steel, of earthenware and glassware, and of various other articles too numerous to mention, much greater in this country than in Great Britain, or in Germany. While under the influence of potent agencies of modern civilization the cost of commodities has steadily declined for thirty years or more, the American people do not receive the full benefits of the industrial revolution to which they are entitled. While they supply the world with cheap food, they are obliged to pay exorbitant duties on many of the commodities which they receive in exchange. It is the mission of tariff reform to correct this evil.—Philadelphia Record.

#### Anti-Tariff and Anti-Monopoly.

A reform must be close at hand when the ministers of the churches dare proclaim it in unmistakable language from their pulpits. The anti-slavery agitation was coming in on the homestead before ministers, to any considerable extent, took part in the reform which culminated in the freeing of the bodies of the black slaves. Now that both white and black slaves are struggling to obtain industrial freedom from the onerous taxes that shackle industry, cramp body and mind and lead to political corruption, it is an augury that the industrial reform proclamation may soon be promulgated to hear a sermon like the one preached by the Rev. John J. Peters, of St. Michael's Church, in New York City, on Jan. 8. He condemned in strong words the politicians who steal from the poor; the officials who take bribes; legislatures that give away valuable franchises without compensation; the party papers, "to whom all that their worst party bosses do is right, provided only they bear the party name," and evil in all places. "Woe," he said, "to the monopolies and trusts, coal combinations, sugar trust, window-glass trust, Standard Oil, men that go to Congress to lobby through a measure, to put a high tariff on steel rails, tin plate, articles of clothing as consumption in order that they may reap enormous profits, joining house to house, field to field, with the money which they flitch from the pockets of the wage earners, grinding the faces of the poor."

#### Canadians Like Cheap Sugar.

Because of the repeal of the duty on raw sugar in the United States the Canadian Government has been obliged to make similar concessions. The opportunity of smuggling has been situated such a policy. As a result there is a shortage of revenue and an increase of Canadian debt. There is no argument for reciprocal commercial understanding between the two countries more impressive than the inability to maintain unequal tax rates on articles of importation. Even our Chinese restriction law is rendered partially abortive by the failure of the Dominion to undertake a similar foolishness.—Philadelphia Record.

#### Our Blessed McKinley Tariff.

As nearly everybody knows, the transatlantic steamship Umbria broke her shaft on her last voyage in 1892. An officer of the company said

that there was a new shaft on the other side of the Atlantic, but as the tariff was so high, the company would not have it sent over and put in on this side, but would take the Umbria to Europe and have the shaft repaired there. There were plenty of mechanics in New York capable and willing to make these repairs, but our tariff laws came between them and their bread and butter.

#### The New Plate-Glass Trust.

The form of trust adopted by the manufacturers of plate glass on the last day of the old year closely resembles that which has been used for some years by the manufacturers of steel rails, and it may be noted that the number of factories is very nearly the same in both of these industries. There are eleven plate-glass factories, and three of these are controlled by one company. The nine companies or firms which own these eleven factories have combined by appointing an agent or commissioner who will sell all the glass produced by them and distribute orders among the producers. These orders will be apportioned according to the productive capacity of the several factories. The commissioner will not only regulate production but also maintain a uniform price. In this way competition both in production and in prices is suppressed.

This is not the first attempt to make a combination in this industry. For some years the manufacturers have been experimenting with combination agreements of one kind and another. A few weeks after the enactment of the McKinley tariff the New York Tribune directed attention to these practices in the following telegram:

PITTSBURGH, Dec. 25.—A meeting of the manufacturers and jobbers of the plate-glass trade will be held in this city in the near future. At the recent New York meeting it was decided to advance prices 30 per cent, but since then Western men have made a stand for a 25 per cent advance. The avowed object of the combination is to keep plate-glass prices at the highest figure possible, and at the same time to keep the price low enough to shut out all importations.

This object can be attained more surely by the plan now adopted than by the verbal promises of the manufacturers. When all orders must be addressed to one Commissioner, who is bound to exact a uniform price, there will be no room for variations and secret underselling.

The leading manufacturer recently said that the domestic product had come to be 90 per cent. of the entire supply. The fact that 10 per cent. of the supply, if that be a correct estimate, is still imported in spite of very high tariff duties indicates that by means of combination agreements the selling price of domestic plate glass has been maintained far above a normal level. This may also be indicated by the large profits of the industry. The leading company paid a dividend of 34 per cent. in 1889, and the new tariff has made the importation of plate glass more difficult in the last two years, although the specific duties on the leading sizes were not changed. The duties on the two specified sizes larger than 24 by 30 inches are 25 and 30 cents a square foot, respectively, and these were equal in 1891 to 66 per cent. in the first case and 105 per cent. in the other. Such are the imposts under the shelter of which the manufacturers combine to exact ring prices from the people who gave them the "protection" which they abuse.

It was supposed that by means of the Federal anti-trust law the people could reach these unlawful associations, but the affiliation of the Harbison administrations have prevented the enforcement of the new law. The combination of plate-glass manufacturers and many other combinations will not be overlooked, however, in the coming revision of the tariff.—New York Times.

#### No Delay, Trimming or Cowardice.

Every argument and pretext for delay in reaping the fruit of a Democratic victory is a concession to the demands of the defeated party. Only those who are cowardly, or wavering, or mercenary will give to the pleas for procrastination any consideration. To stop the wheels of a beneficent revolution is to join the reactionists and to become an enemy of progress. The people voted for reform—not the mere idea of tariff reform, but for actual, efficient, radical reform. They voted for that method of reforming a great abuse and evil, which is to destroy it. They did not vote for that spurious method of reform which would tolerate further the abuse and evil, postponing the day of reckoning and arresting final judgment. The demand for reform was as emphatic in relation to the time as in relation to the principle which was to be enforced. As in many cases at law, time is the essence of the contract into which the Democratic party entered with the country in its platform and at the ballot-box.

There is no necessity nor excuse for procrastination. Two or three campaigns of education have been fruitful. The people of this country, all men who read and vote, are as well instructed now on the tariff question as they will be at any time in the perceptible future. Congressional committees can find out nothing new on the subject of the tariff. A tariff commission could not extricate from any possible mass of testimony a single fact in regard to the commerce and industries of the people which would add a ray of light to the common intelligence. Every feature of tariff legislation and its practical effects has been elaborately discussed, and no further period of deliberation is necessary or desired. Every hour of delay beyond the period at which the new Congress can assemble and obey in its legislative capacity the mandate of the voters is an hour of cowardice. The people have no time to wait. They do not propose to stand in the vestibule and cool their heads while their representatives in the lower house are considering the advisability of obeying the command. If the Democrats in Congress shall fail to administer at once and effectively the commission with which they are charged they will have disobeyed and forfeited it. For this infidelity to duty they will be held accountable. No cowardice, no trimming, no paltering, no delay, is the

demand made at the ballot-box. It is the recorded will of the voters.—Chicago Herald.

#### Steel Rail Trust.

The American Manufacturer is protectionist in the strictest faith; it is, however, one of the best organs of the iron and steel industry. From its annual review of the trade for 1892, we extract the following:

"There was nothing of an up and down character in the steel rail trade during the past year, at least so far as prices were concerned. Ever since the price of standard heavy section rails was established on a basis of \$30, Pittsburgh, Feb. 1, 1891, that figure has been maintained in the face of a demand lessened by the high prices charged and with more or less friction within the Steel Rails Association over the question of the distribution of orders. There is no question but that the steel rail trade was much smaller than it would have been had the price been placed even arbitrarily at a lower figure, and through the rail trade almost all other branches of trade were affected. At the beginning of the year 1892 it was predicted by parties prominent in the rail business that the requirements of that year would exceed those of 1891 by 500,000 to 750,000 tons. This was based on the expectation that the railroads of the country would make extraordinary efforts in the way of improving and increasing trackage to be able to meet the enormous traffic consequent upon the World's Fair. While this expectation has been realized in a measure, the cause cited above has prevented its full fruition. The production of heavy section rails in 1891 amounted to 1,089,000 tons, and for 1892 a little under 1,300,000 tons, the official figures not having been announced. This shows the increase for 1892 to have been only about 210,000 tons, or far less than was expected, or at least hoped for, by the rail-makers. The association has decided to make the price of rails for the present year on a basis of \$29, Pittsburgh. If this figure is adhered to, with soft steel getting nearer to \$20 apparently, and if railroads restrict purchases as much as the year is, the bond of union holding together the various steel rail concerns in the association will be subjected to a crucial test. It is the opinion of many that were this branch of trade placed on a footing of open competition it would be beneficial, not only to the steel rail business, but the direct and moral effect on all other lines would be great."

It is expected that the next Congress will gratify the wishes of the manufacturer by putting steel rails on the free list. There will then be open competition, with all of its attendant blessings to other branches of trade.

Wool-growers are all right. So it seems the wool-growers were deceived all the while when told that free wool would be the death of them. Now that free wool is seen to be inevitable, the alarmists of other days are telling the farmer that he is all right, tariff or no tariff. The Chicago American Sheep Breeder asserts that "the most intelligent thinkers do not apprehend any such dire results as the calamity-criers would have us believe," and says the "mutton-raisers have nothing to fear," as "the consumption of mutton is on the increase," and "the mutton business is paying better than any other branch of live-stock raising," so much so that sheep, "without a pound of wool," are leaving "a golden track," and are "mortgage-payers." Even more striking are the added comments of the Boston Journal of Commerce:

"Sheep husbandry and wool production will be an important occupation in this country for generations to come, either by itself or in connection with general agriculture, whatever the tariff policy of the United States may be. The style of sheep husbandry may change somewhat, from the merino to the English type, in case of free wool, but it is bound to play an important part in the vocation of the farmer. The merino sheep is but a pioneer sheep at the higher forms of agriculture which accompany the progress of population. In a thickly settled locality no farmer can afford to raise merino sheep in preference to mutton sheep. These conditions affecting sheep husbandry are not disturbed by the tariff policies of the government."—New York Evening Post.

Isn't it most singular that not one person in five hundred ever consults a physician except when overtaken by illness. If every man and every woman, even in perfect health, would every sixty days consult a skillful physician, submitting to such examination as may be deemed necessary, the results would be almost salutary in preventing the slow and almost imperceptible inroads of disease. Preventive work should be by far the most valuable service of the true physician to any mortal. Yet all avoid consulting him except for curative treatment. Give your physician a chance to keep you in good health, and not stupidly wait till you are ill, and probably hopelessly so, before you ask his professional services.

The Associated Press said recently that Yonkers would have a new carpet factory. Yonkers now has the largest carpet factory in this country; but, of course, with free wool in prospect new factories must go up to supply the great demand for carpets that will follow general prosperity and cheap carpets—but these items are hard blows to the McKinley "demonition bow-wow" prophets.

The great and modest Sir Isaac Newton, with his vast attainments, once likened himself to a child who had only gathered a handful of pebbles on the seashore. His knowledge was very little, in his own view of it, yet his varied attainments seem almost to transcend the known capacity of man.

There are people in the United States who don't realize that an election has occurred. Trust-makers may continue to ply their trade until next March, when the new administration will curb their powers.

Good passenger locomotives which develop 1,200 horse-power cost about \$10,000 apiece.

## TOGS FOR LITTLE TOTS.

### AN ARRAY OF VERY BECOMING STYLES FOR CHILDREN.

The Newest Skirts Are Having Their Ruffles Lined with Crinoline—If Only We Could Be Sure the Fad Will Go No Further!

#### Gotham Fashion Gossip.

New York correspondent.

CAREFUL dressing is as evident in case of the children of the stage as it is in their elders of the profession, the opera and tragedy queens. The initial illustration portrays a young exquisite as attired for public display, and just as mothers take pattern after the costumes of stage adults for their own wear, so they take the dress of stage children as models for their own little ones' garb. Fashions for boys are now very handsome. Maybe the boys don't like their new styles as well as the mothers must, but that has nothing to do with their looking perfectly distracting.

The original of the second picture was a boy of eight or so, sturdy and well put together. He had on his well-set curly head a visor cap of the admiral kind. His knee breeches fitted well to his sturdy legs and a perfectly distracting "reefer" jacket finished the rig. The whole was in bright blue cloth, the buttons were brass, and shone like the smile on the boy's merry face. Just above the top button of the reefer was a scarlet necktie. From the pocket in the jacket the corner of a crisp handkerchief peeped, and his stockings were black and his shoes sturdy and boyish-looking. I can't say he encouraged the admiration which his appearance created. He gave one young lady a reproving glance, and then looked the other way with a smile, quite as if he were saying to himself, and meant her to know it, "You can't make any impression on me, my young person."

The little fellow just described was attired like, and looked, a little man, but many mothers prefer to dress their boys more elaborately. Such welcomed the Little Lord Fauntleroy costumes, and now that they are out of style they continue their rage for his sash and curls and a general notion of picturesqueness for their small boys' get-ups. Several little fellows have been confided to me that in consequence they wish they were dead, but they are a delight to any woman's eyes notwithstanding. The last boy who was sent to me can be seen in the third picture. He wore black velvet knee breeches, a very short Zouave sort of jacket edged around with a jetted braid, and that was worn over a shirt of fine white muslin, very full and with a ruffle all down the front. The ruffled cuffs of the shirt turned back over the velvet sleeves. On his long wavy hair a Scotch cap was set, with a feather to delight any boy's heart sticking up in front. A bright tie was at his throat, and his stockings were silk. Yet this ungrateful small boy stood thrashing his switch about over his head and said that if his "man" did not take such awful good care of his togs, "girl things, anyhow," he would have abstracted and buried them long ago. "And if he didn't take such good care of me, I'd drown myself. I would, the next time he had me put into the things. Why, there isn't a boy in the block who would speak to me. The fellows who are got up the same way by their mas are as ashamed as I am, and the other fellows, of course, won't know me. You can't blame them, now, can you?"

For Woman's Wear.

Turning from the little ones, the next picture shows a dress of white Indian crepon suitable for a young or middle-aged woman. It has a bertha of mousseline de sole, embroidered with a satin stripe, plastron of white mousseline de sole, and flounce, collar and belt of maline velvet. The bodice is lined with silk or alpaca, and trimmed around the bottom with a gathered flounce of ribbon velvet to match the corsalet. When skirts made of double-width material are lined with silk or alpaca, or any other lining of wide width, the lining is usually wide enough to cut the side pieces, but not those of the front and back. A good way is to place a

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any. The exaggeration of the crispness is, of course, the awful hoop skirt and the yards and yards of stuff in skirts. Let us cling to the Empire, or, perhaps, it is better to say let the Empire cling to us. Of course, short skirts are no guarantee against hoops, for, in fact, hoops are bound to come. They came as a reaction the last time fashion took to clinging gowns for a time. So, if your mother has given you any old dresses, pause in your mad career and don't cut up the wide skirts. Keep them a few months longer and you can wear them just as they are. At the sight of the first models you will have to admit a charm of graciousness in the fashion, and a suggestion of band-boxes that is very alluring after our close-clinging, damp-looking notions of late.

A shabby silk petticoat can be made really swell again by running its ruffles with narrow ribbon in rainbow combinations. Not only will the rows of ribbon give fresh color, but they will lend a crispness to the skirt and to the dress over it.

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The ice crush in the Ohio River sent \$250,000 worth of coal, it is estimated, to the bottom of the turgid flood. Which incident the thrifty gentlemen of the Reading coal combine will doubtless view as a ray of light from out the dark'ning clouds of courts, injunctions and legislation leveled at combines in general and their own air-tight affairs in particular.

Some enterprising people propose to start, near the World's Fair, a saloon that shall be decorated with death's heads, skeletons, coffins and craps. The idea of furnishing a ready-made case of delirium tremens to the most somber type with every drink is certainly unique. If its novelty can obscure its idiocy it may succeed.

is covered by the skirt, it is sufficient for the two inches to two and a half long. The plastron starts at the shoulder, touching the collar, angling half way between the collar and the top of the darts; it is covered with pleated mousseline de sole. The crepon fronts usually finish at the plastron, but they may be continued underneath if it is wished to alter the dress at any time. A tertia of gathered mousseline de sole follows the outline of the plastron, and is continued around the back of the neck and down the edges of the fastening to the corsalet. The military collar is of the material, and is covered with a piece of surah on the cross. It fastens in front. The corsalet is made of ribbon velvet, wound twice around the waist; or a fastening may first be made of Victoria lawn, well boned and lined with satin, on which the ribbon is placed to look as though wound round the figure, and can be fastened under the arm at the back. The trimming of this



DRESS OF WHITE CREPON.

dress, viz., the collar, plastron, and bertha, may be made separately in surah and lace, so that it may be used with any plainly made dress. The sleeves are puffed.

A handsome evening dress of cream crepon, with sash of satin ribbon, is sketched in the last illustration. The bodice is made low-necked and fastens over the skirt. It has a basque and one-half inches deep on the hips, two to two and a half inches at the back, and about three inches in front. It is easy, however, to alter these dimensions according to the figure, and either to lengthen or diminish the length of the back and front points. It fastens in front, the hooks and eyes being hidden by the folds. One wide band is allowed for the back and one for the front. The material for the bodice is of medium size, but the stuff for the very narrow width must be augmented. The bottom of the bodice is covered by a ribbon forming a sash. The sleeve lining is narrower than the material and has two seams. The bottom of the sleeve may be drawn near the arm, with a piece of elastic run through the hem; the material is cut in one piece and is longer than the lining, so that it falls over at the bottom, and it should be draped with a few stitches. A broad piece of elastic holds the bodice tightly on the shoulder, the sleeve being fixed on the other side of the elastic, which it entirely covers. The skirt is trimmed with a little gathered flounce, the material for which is used double, forming a pretty heading.

The newest skirts are having their ruffles lined with crinoline, and there is certainly a welcome crispness of effect. If only we could be sure the fad will go no farther than just crinoline! But fashions never stop at their first pretty effect; they go on and on till the whole exaggeration is upon us. Then we are slaves to the fashion, and every one forgets the state of the thing, and groans under what seems an unreasonable tyranny.

When the navigator desires to make a log-line by which to ascertain the speed at which his vessel is making through the water, he follows the constant 6,080. As the number of revolutions in an hour are 6,080 feet so are the number of seconds in the time-glass (to be used) for measuring the ship's speed to the number of feet in each unit of measurement marked off on the log-line. If a half minute (30 seconds) glass is to be used, the knots must be made 50 feet 8 inches from each other, and the number of these knots which pass from the reel over the stern while the sand is running from the glass to the lower bulb of the time-glass is equal to the number of knots or nautical miles that the vessel would make in an hour, providing the same conditions for speed continue. For instance, if the engines of a steamship continue to make the same speed during the hour, or if the force of wind and spread of canvas of a sailing vessel continue the same, the number of knots on the line passing from the reel while the sand is passing through the 30-second glass, is as good an actual measurement of the vessel's speed through the water as could be obtained except that the course should be measured by an actual survey with instruments. If it was shown that the vessel was making ten knots, she would cover ten geographical miles, or a little more than 11 1/2 land miles, in eleven and a half times 5,280 (5,280 feet being equivalent to a land mile). Hence to speak of the City of Paris having made 525 knots or nautical miles in 24 hours, she covers a distance of 604 1/2 land miles, as comprehended in railroad distances, or a rate of 25 land miles an hour, which is faster than many railroad trains travel.—N. Y. Tribune.



A HANDSOME EVENING DRESS.

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## A KNOT AND A MILE.

### How Navigators Compute Distance—"Dead Reckoning."

"Will you please explain the difference between a knot and a mile?" "What is the meaning of the term knot, as applied to the great speed made by the City of Paris?" "Is not the term knot simply a unit for measuring the speed of a vessel at sea, and has it anything to do with the actual distance that the vessel makes in a specific time?" These are only some of the questions asked by "A Subscriber," "Constant Reader" and scores of others whose letters arrive by each mail and each requesting a reply, some inclosing a slip of paper and an addressed stamped envelope, some with stamps only and many with neither stamps nor money, the writers having no thought that the answers to such correspondents involve not only expense to the newspaper of employing persons to answer these letters, but there must be added the cost of stationery, postage, etc. Some writers also neglect to give their address, so that many letters cannot be answered. This latter class, no doubt, charges the editor with inconsistency, while the fact is entirely with the writer who neglects to say to whom and where the reply is to be sent.

But what is the meaning of the word "knot"? It is purely and wholly a nautical term, having specific and direct application to the speed and distance made by a vessel moving in water. The word "knot" is the mariner's term for a nautical mile, and its use is really derived from the log-line used by navigators of the ocean when they wish to determine the speed and the distance that the ship has probably sailed in a given time. The log-line is an important and a very necessary part of a ship's fittings; especially is this the case when, for several days at sea, the navigator is unable because of the sun being hidden by clouds of thick weather to get a peep at it with his sextant, which enables him to ascertain the position of the ship is worked out. With the data taken by a frequent heaving of the log (a small block or section of wood with a long line attached and run out from the stern of the vessel for a specific number of seconds) noting the force and direction of the wind, the possible currents, or rather influences acting favorably or against the progress of the ship, the navigator is enabled to calculate very nearly, in overcast or foggy weather, about where his ship is at any hour of the day. This is called "working out the position of the ship by dead reckoning."

Every one who studied the geographical table in his early school days will recall that part of the sing-song recitation running like this: "60 1-2 statute miles, or 60 geographical miles equal one degree of longitude at the equator." Now, the difference between a statute mile and a nautical or geographical mile is that the latter is about 806 feet greater than the former. There are 60 geographical miles to each degree of longitude, or to each degree of longitude at the equator, which degrees of miles are called "minutes" in the nautical vocabulary, hence the old saying "a mile a minute." As there are 360 degrees or meridians of longitude, there are 21,600 minutes or miles in the entire circumference of the world, at the equator; and it has been mathematically determined that one minute—one geographical mile—at the equatorial circle is equal to 6,086.7 feet. But it has been the habit of mariners not to be too exact on small fractions when measuring distances as great as miles, consequently the practice of defining a knot or nautical mile as equal to 6,080 feet, instead of 6,086.7 feet, has been generally adopted.

When the navigator desires to make a log-line by which to ascertain the speed at which his vessel is making through the water, he follows the constant 6,080. As the number of revolutions in an hour are 6,080 feet so are the number of seconds in the time-glass (to be used) for measuring the ship's speed to the number of feet in each unit of measurement marked off on the log-line. If a half minute (30 seconds) glass is to be used, the knots must be made 50 feet 8 inches from each other, and the number of these knots which pass from the reel over the stern while the sand is running from the glass to the lower bulb of the time-glass is equal to the number of knots or nautical miles that the vessel would make in an hour, providing the same conditions for speed continue. For instance, if the engines of a steamship continue to make the same speed during the hour, or if the force of wind and spread of canvas of a sailing vessel continue the same, the number of knots on the line passing from the reel while the sand is passing through the 30-second glass, is as good an actual measurement of the vessel's speed through the water as could be obtained except that the course should be measured by an actual survey with instruments. If it was shown that the vessel was making ten knots, she would cover ten geographical miles, or a little more than 11 1/2 land miles, in eleven and a half times 5,280 (5,280 feet being equivalent to a land mile). Hence to speak of the City of Paris having made 525 knots or nautical miles in 24 hours, she covers a distance of 604 1/2 land miles, as comprehended in railroad distances, or a rate of 25 land miles an hour, which is faster than many railroad trains travel.—N. Y. Tribune.

## POPULAR SCIENCE NOTES.

It is a popular test of the power of an opera or a field glass to try to sight four of Jupiter's moons. To ascertain the limit of a small telescope, having object glasses of 2 1/4 to 2 3/4 inches in diameter, try to sight the rings of Saturn.

Edwin L. Herrick's "Great Telescopes" was the subject of an address delivered recently before the Chicago Academy of Sciences in the Keeler building by Professor J. E. Keeler, formerly astronomer at the Lick Observatory, now director of the Allegheny Observatory, Allegheny, Pa. A large and attentive audience, composed chiefly of professors and scientists, listened to the lecture, which lasted more than two hours. "The popular idea of telescopes," said the professor, "is wholly erroneous. There is no use of increasing the magnitude of the lenses beyond a certain size. Nothing is gained. I have frequently been able to do more and better work on a clear night with a little two-inch lens of my own manufacture than was possible on a twinkling night with the great Lick telescope. The only real advantage possessed by the great telescopes is a much higher resolving power—that is, through the great lenses astronomers are able to distinguish an appreciable distance between two stars so close together that they have always been regarded as one." "The Lick telescope was an experiment, and the Chicago telescope will be a further experiment in the same line. In atmospheric conditions the Lick will have to yield the palm to California, although I do not doubt that the new observatory, taking advantage of past experiments, will be the most complete and perfect in existence."

## It Is Good Bread.

A good deal has been said about the wretched "hungerbrod" on which the starving Russian peasants were fed, and a great deal of sympathy has been bestowed upon them for having to eat the stuff. This, it seems, has been largely wasted. Professor Virchow has been making an analysis of this bread, and comparing it with the rye bread commonly eaten by the lower classes of Germany, and he says that the "hungerbrod" is by far the more nutritious article. It contains 11.79 per cent. of albumen, and 3.79 per cent. of fat, while the rye bread baked in Berlin has but 6.04 per cent. of albumen and 0.48 per cent. of fat. It appears that the Russian peasants ought not to starve if they can get enough "hungerbrod" to satisfy their hunger.—[New Orleans Picayune.]

## RELIABLE RECIPES.

CORN STARCH CAKE.—One cup of but-  
ter, two cups of sugar, two and a half  
cups of flour, one cup of corn starch,  
one scant cup of sweet milk, whites  
of seven eggs, two teaspoonfuls of baking  
powder, one teaspoonful lemon extract.

HOW TO MAKE GOOD BREAKFAST OMELETS.—An omelet should be a fine golden  
color, light and delicate throughout, and  
of somewhat creamy consistency in the  
centre. To make an omelet of four eggs,  
take a French frying-pan of sheet iron,  
about nine inches in diameter. Beat the  
eggs lightly, giving them about a dozen  
strokes. Add a very scant half-teaspoon-  
ful of salt and about half a saltspoonful  
of white pepper—nothing more. This  
seasoning should be added before the  
eggs are beaten. Let the pan be heating  
over the fire while you are beating the  
eggs. Put a teaspoonful of butter in it.  
The moment the butter is melted and  
before it turns brown, pour in your ome-  
let. With a fork, lift up the edges and

allow the uncooked eggs on top to run  
under toward the centre of the pan.  
This will take but one moment. By this  
time the omelet should be creamy in  
the centre and firm at the bottom. Be-  
gin to roll it from the bottom edge of the  
pan. There is always some difference in  
the heat on the sides. Let the omelet  
rest for about half a minute after it is  
rolled, then turn it out on a hot platter  
and serve it. The time here given  
is on the supposition that there  
is a brisk fire in the range.

An omelet to be in perfection must be  
made very rapidly. It is a thing tossed  
off on the inspiration of the moment.  
Like the preparation of a salad, deftness  
of touch and light and rapid motion are  
of more avail than any set rules. It re-  
quires some practice to be perfect in the  
making of omelets. When you have  
once mastered the art you can add all  
sorts of minces and flavors to give variety.  
A half-teaspoonful of chopped parsley  
and tarragon, or a few grains each of  
the amount of chopped chives will make you  
an omelet of fine herbs. Six oysters,  
scalded up in their own liquor and mixed  
with two tablespoonfuls of well flavored  
cream sauce, may be poured in the centre  
of a plain omelet of four eggs just before  
it is rolled, and we have an oyster omelet.  
Add a tablespoonful of cheese before  
the omelet is rolled, or a tablespoonful  
of asparagus tops, or of green peas, or  
two tablespoonfuls of minced ham or  
minced chicken livers, well fried, and in  
either case you have a delightful variety  
of this familiar breakfast dish.

## Health and Squalor.

"Appearances are sometimes deceptive  
and popular impressions erroneous," said  
Dr. Tracy, of the Health Department, to  
me.

"What now?" I asked.  
"I had a friend, a physician from  
Connecticut, call on me the other day.  
On one of his trips about town, he had  
strayed down in the Tenth ward, which  
is bounded by Division, Rivington and  
Norfolk streets and the Bowery. It is  
the banner tenement house of