Correspondence.

The Editors are not responsible for the opinions expressed by their Correspondents.

Class Legislation and the "Working Man."

To the Editor of the Scientific American:

After repudiating the communistic nonsense which is so frequently and erroneously attributed to us as a class, it becomes our duty to oppose, with all our powers, the idea that our occasional troubles are to be remedied by exceptional legislation, and by defiance of the laws of political economy; in other words, that an evil can be cured by a folly, perhaps by a crime.

Class legislation, the parent of all jobbery, political intrigue and malversation of public property, is the favorite panacea, for short work, low wages and dull trade, of all the writers and talkers who are trying to tinker this matter; and such of us as value our independence, and believe that all legislative enactment should deal with the public as a whole and on general principles, will join with me in repudiating any violation of this principle, the maintenance of which is vitally important to the interests of any nation whereof the working people form a considerable portion. When government by public opinion is superseded by government by "rings," the interests of the working men are the first to go to the wall. We have had all sorts of special acts of Congress passed in the last few years; the majority of these are ostensibly intended to raise artificially the prices of commodities, and the public are informed that only by these high prices can high wages be paid. In the meantime, wages are falling on every hand, the charges for all the necessaries of life are, almost without exception, what they were when gold was at 180, and the public lands of the west (the almost boundless extent of which, offering new fields for industry and enterprise, is the real reason why wages are high in our country) are being jobbed away by millions of acres to rail road companies and other wielders of powerful influences, well known to Congress and to State legislatures, to lobbyists and other enemies of the public welfare. The loudest talkers and the most pretentious of our would-be friends are advocates of these class laws, who think they can bolster up a falling trade by an act of Congress or a subsidy; they have had their own way for some years, and now goods are at famine prices, wages are falling, the export trade and the enterprise of our merchants are on the wane, and, as usual, the working men suffer, more severely than any other body, the injuries resulting from a subversion of the laws of political economy. Have we not good reason for deprecating this suicidal policy, however specious may be the smooth speeches of the monopolists who are so disinterestedly advocating our interests, and who never, on any account, are influenced by considerations personal to themselves?

I will give an instance of the effect of attempting to make things pleasant by resisting the laws of Nature. Recently, in London, the number of laborers engaged at one of the docks was much reduced by the weather, and employment was scarce. The men out of employ offered to take lower wages; the men in work resisted their being engaged. Now the wages of a dock laborer are none too high anywhere; he is required to exercise only physical strength, and no man with knowledge of a handicraft would willingly spend his time in hauling bales of goods. Therefore the work is always done by men who are not accustomed to anything but a rough and penurious life; and in resisting the reduction of wages, the hands in work had as fair a claim as any man can possibly have. We take it for granted, then, that it would be a great hardship to these people to have their scanty pay still further reduced, for reduction of such a pittance means dispensing with some of the actual needs of existence. But, in candor, we must consider the case of the majority, who were out of work. They say: "You have had your five dollars a week for some time, we have had nothing; we are willing, and shall be glad, to take four; you do not want your meals diminished in number to two in a day, we are without a meal at all. Let us, whose necessities are greater than yours, have our turn. Our willingness to take less wages is a proof and a good indication that, and how far, our needs are greater than yours. Let us have a chance. Your talk, of its being for the interests of laborers as a class that wages should be kept up, means only that *your* pay must be maintained at its present rate; our only chance of getting work, and thereby bread, is by the reduction of wages." What can legislation do in such a case? What is the use of fighting against Nature, and attempting to make water run up hill? If men would reflect and see that the curse of society is too much legislation, that the interference of the government with trade and economical questions is as illegitimate as it is with religion, dress, and diet, there would be some chance for the permanent elevation of the social status of the working people. We have our brains full of vigorous life, we have almost exclusive possession of the mechanical ingenuity which now produces so large a share of the world's subsistance, we may say, without boasting, that we are loyal and law-abiding, and capable of the moderation and self-restraint without which man is a worthless blatherskite; and other trades and professions cannot refuse to call us brothers, if legislators and grievance mongers would only leave us to our own independence.

The most scandalous malversations of the public funds ever contemplated are the proposed subsidies to ship builders, and I am glad to see that no workmen are found clamoring for access to the public purse. Why? Not because a workman has not as much right to a share of the public money as another, but because employment created at the national expense is only pauperism on a large scale; and the workmen are not the persons for whose benefit subsidies are voted. They have always been the victims, not the *protégés* of class laws and special legislation; and if there are some among us who are not yet aware of the fact, they will certainly soon find it out.

In conclusion, let me say that we are not less anxious to repudiate the accusation of communistic ideas than we are that of a desire for national aid and public eleemosynary benefits; and a summary of all that we can say or think on this subject is comprised in the following short, pithy, and peremptory sentence: Let us alone.

In another letter, I propose to remark on some of the legitimate remedies for our troubles and difficulties.

New York city. PRINTER.

Zinc Amalgamation for Extracting Gold and Silver.

To the Editor of the Scientific American:

I am glad to see that Mr. Butler asks if extraction of gold and silver by this mode "has been practically used in any place on a large scale." I hope for some light on the subject in reply to his query. I have sought (by private means) to learn if such was the case. I have thus far only heard from those who set forth their theories, but fail to adduce facts.

What we need, are facts. It is the business of the miner, the world over, to mine and raise the ore. Then the ore is taken by the stamp mill or the smelting works and the metals extracted, Now many seem to think the miner should step aside, from what I conceive to be his legitimate business, to test any new process which seems to have a correct theory behind it. He should not; when facts are shown, proving that such a mode, at such an expense, will do more for the miner than the millman or smelter can do to-day, that mode will find speedy adoption. The field is a large one. The waste is now enormous. The reward to the successful man will be great.

Let me give you some figures, from a mine in Colorado, so well attested to me that I am ready to be responsible for them. The mine yields gold and silver, and the figures cover a period of forty-one weeks, ending December 9 ultimo. The gross yield, in currency, was over $72,000; the actual profit, from this yield, was over $29,000.

Tests, repeated week after week, render it sure that less than three fifths, in value of the gold and silver, was obtained. The actual value, in currency, of the metal wasted was, therefore, more than $48,000.

This difference was actual waste, a subtraction from the wealth of the country of just so much actual value, in all probability never to be regained, aside from the loss to the parties owning the property. LAMBDA.

Boston, Mass.

Iron and Copper Pyrites in Gold and Silver Ores.

To the Editor of the Scientific American:

The gold found in this combination, instead of being of a bright yellow color and metalic lustre, is of a grayish brown, dull tint. In this condition, it is known as "rusty gold," and seems to be quite indifferent to the action of quicksilver. Experience shows that this class of ore, on melting, gives a regulus of bright gold, containing 99 per cent of the original. This experiment indicates that there is a film of some other substance upon the surface of the rusty gold. Besides ferruginous sulphuret of copper, may there not be tennantite, white copper and the different classes of arseniate of copper, all of which contain more or less arsenic and sulphur? In some instances the amount of silver in the pyritical ores is usually very small. A small portion, alloyed with gold, is saved in the stamp mill; but by far the larger part, being in a state of sulphide which will not amalgamate, is lost. Why? This is the problem of which the solution has been long looked for.

The fact that copper is found in these ores in combination with silver as well as gold, indicates that the species of silver is the sulphuret, that is, brittle sulphuret of silver, which contains silver, antimony, iron, sulphur, arsenic and copper; sulphuretted antimonial silver, containing silver, antimony and sulphur; or, it may be, carbonate of silver, composed of silver, carbonic acid, oxide of antimony, and a trace of copper. However, the striking resemblances, of these species containing sulphur, antimony, arsenic and copper, would lead one unskilled in mineralogy and metallurgy to form a fixed idea that the film of some substance found on the surface of rusty gold is a combination of the heretofore mentioned impurities. Of course, this coated gold can be saved only to a small extent by the ordinary stamp mill process.

The partial desulphuration effected by the many patent processes which have infested the territories will not accomplish this. Why? The chemical nature of this coating has not yet been absolutely ascertained

The fact that so high a roasting is required to remove it, clearly indicates that it is not sulphide of iron; while other circumstances would lead us to believe it to be oxide of iron; but may it not contain antimony and arsenic? It has been generally supposed that desulphurating ores by heat would remove the impurities that impeded amalgamation. This has proved an erroneous idea; sulphur is not the only obstacle to the process of amalgamation.

In Colorado ores we have, in combination with gold and silver pyrites of iron and copper and all these in combination contain more or less antimony and arsenic, which are directly opposed to the affinity of quicksilver. Hence it is palpable that these impurities must necessarily be removed by chemical agencies accompanied with mechanical power to stir the substance up and keep the whole in motion, reducing them to chlorides, and then running them off by means of a faucet (thus leaving the ore in a condition for amalgamation) before the amalgamating process is commenced. The shameful loss in these and all other classes of gold and silver ores, proves that the processes of chlorodizing in use are a failure, and that heat by roasting, alone, only partially removes the impurities at an astounding cost. Scientific men, so called, have made stupendous mistakes of judgment; but they have been surpassed by the blunders of practical men, so called. The scientific men without practice and the practical men without science, the honest men without capacity and the smart men without honesty, have done so much to destroy the mining industry of the territories, that the very fact of its continued existence, after such terrible trials, is proof of its inherent vitality and future prosperity. The great question apparently still remains unsolved by practical operations on a large scale: Will mere desulphurating by roasting leave auriferous pyrites, in a condition suitable for the extraction of the gold and silver by amalgamation? Experience thus far is discouraging; but we need not doubt some simple expedient will be discovered; overcoming the difficulty. That such an invention is needed appears from the fact that chloridizing and smelting, two processes which are acknowledged to be metallurgically perfect, are too expensive to be applied to a large class of ores, for which amalgamation will probably always remain the available method.

PERCIVAL STOCKMAN.

[The above is by an experienced miner who has spent many years in the mines of California and in the silver mines of Mexico and South America.—EDS.]

Turbine Water Wheels---A Proposition.

To the Editor of the Scientific American:

I propose to the builders of turbine water wheels throughout the United States, or to as many as may see fit, to meet me at the Grand Central Hotel in the city of New York on some day to be appointed, for the purpose of selecting some suitable place, near one of our cities, say Boston, New York, Philadelphia, Baltimore or Richmond, where we can have our water wheels tested and examined by a committee of competent and disinterested persons; with the understanding that said committee shall reject all wheels sent them which may be made or finished differently from those offered for sale; and that all the wheels sent to the committee, and not rejected by them, shall be examined and properly tested; and that a report of the merits of each wheel tested shall be published; and that all expenses shall be equally divided and paid by those who send wheels to be examined and tested. N. F. BURNHAM.

York, Pa.

Condition of our Navy Vessels.

Since the Spanish war speck has appeared on the horizon, our daily papers have taken up the subject of our war vessels; and, from the discussions and information otherwise obtained, we should doubt if our naval authorities are prepared for an emergency, should hostilities be commenced between this country and Spain. On the authority of the *World*, we learn that at the Brooklyn navy yard there are three still unfinished vessels lying, on which not a day's work has been done since the close of the war. These are the first rate screw steamships, Java and New York, each of 2,490 tuns burden, and the ironclad Colossus, 2,127 tuns, and fitted to carry ten guns of large calibre. The Java is constructed of white oak, the New York of live oak, and both will be splendid vessels if they do not rot before they are launched. The Colossus will require a year's work for her completion, but the others could be finished much sooner if there were any money to carry on the work. There are no vessels in commission, although a number are lying there for repairs. Among these are the Minnesota, first rate, 2,912 tuns and forty-five guns; the Roanoke, second rate, ironclad, 2,260 tuns and six guns; the Florida, second rate, 2,135 tuns and twenty-five guns; the Tennessee, second rate, 2,135 tuns and twenty-three guns; the Hartford, second rate, 2,000 tuns and eighteen guns; the Canandaigua, third rate, 955 tuns and ten guns; the Iroquois, fourth rate, 695 tuns and six guns, and the Portsmouth, fifth rate, 846 tuns and fifteen guns. There are also two storeships, the Guard and the Supply, the former carrying four guns and the latter two. It might be imagined, on viewing the rather formidable array of guns and ammunition presented at the yard, that the country was fully supplied; but on closer examination such would be found to be not the case, as by far the larger quantity of powder is the remnant of what was left over after the war, and consequently has not improved by age. Most of the guns are Parrotts, of which there are three hundred, ranging from twenty to one hundred pounders. Of smooth bore guns there are three twenty inch guns, twelve fifteen inch guns, twenty-eight nine inch guns, ninety-seven eight inch guns, and one hundred howitzers. This enumeration includes only those which are serviceable. The small arms comprise a number of pistols and cutlasses, and about two thousand Remingtons. The above quantities represent the whole of the navy yard supplies, and it may well be asked: What would be done if war were declared?

Of all the vessels now at the yard, only the Canandaigua is nearly ready for active service, though the Hartford and Portsmouth are also fitting for sea. The Canandaigua can be made ready in about ten days. In case of war, little assistance could be furnished from here, unless large extra expenditures were authorized by Congress. With abundance of men and money, only one vessel in addition to the Canandaigua—the Portsmouth—could be made ready in a month, and then only as a sailing vessel.

In six months, under the same conditions, eight vessels could be made ready, including the ironclad Dictator, now lying at New London. Perhaps the most formidable engine of war would be the Stevens floating battery, which is at the present time being put in a state of completion, and is expected to be quite ready for action within forty days' time. As the battery now lies in the yard at Hoboken it appears unwieldy, but ere a fortnight a vast change will be apparent. It has been pronounced by naval connoisseurs one of the most formidable of engines of war. Its keel was laid down in 1840. Since then it has been on the verge of completion thrice, but the changes in naval architecture have been so numerous and important that it has been taken apart to make it conform to these improvements. It is nearly 300 feet in length, is 25 feet beam, and draws 21 feet of water. Its frame is built of the stanchest of live oak. This is covered by teak planking, which in turn is backed with two foot teak slabs. The outside armor consists of five inch chilled iron plates. These are secured to the wood by headless bolts. By this method, the surface on each side of the vessel is smooth, and affords no opportunity for plunging shots to tear off the plates. Its battery will consist of seven guns; four of these are 500 pound rifled Rodmans. The remaining three are 250 pound rifled Parrotts. Her prow is composed of solid iron, backed by oaken logs, and will prove a powerful ram. It is confidently expected that she will be enabled to steam at the rate of twelve knots an hour. Taken altogether, she is a war ship that, if brought into action, will astonish the Spaniards quite as much as did the Monitor the people of the Merrimac.

PREPARATION AND COMPOSITION OF ALLOYS.

The following instructions are extracted from Fesquet's translation of Guettier's metallic alloys, noticed in our last issue:

As generally practiced, the metals to be combined are melted by processes and in apparatus which vary, according to the quantity of alloys to be cast or the nature of the metals under treatment.

The metals easily fusible, such as lead, tin, etc., are melted in a ladle, or in wrought or cast iron kettles.

The more refractory metals are melted in crucibles, whose qualities of solidity and resistance to the fire are the more sought for as the metals have a higher point of fusion, or are more valuable.

For gold, silver, and platinum, we require crucibles of a superior quality, which will not crack, and thus lose in the fire the metals they are intended to receive.

For copper and its alloys, although requiring crucibles as solid and lasting as possible, we look more towards economy, because the work is frequent and regular, and we operate on quantities of less value.

When the mass of metal becomes considerable, whether because many castings are to be made, or because of the heavy weight of the pieces, instead of the crucibles, we operate in reverberatory furnaces, and sometimes in cupolas.

The processes of melting and mixing the metals in a crucible, however simple they appear at first sight, require certain precautions upon which we cannot too strongly insist.

The alloys made in one operation are always very difficult of preparation, when the metals, such as zinc and lead, copper and lead, for instance, possess a sort of "antipathy" in their affinity. It is with much trouble that we obtain, in this way, thoroughly homogeneous castings, presenting the same body and grain of similar alloys, which have already passed through a previous fusion.

In order to arrive at the best possible results, without employing the method by separate operations, it is proper, as a rule, to endeavor to operate according to the following principles:—

1. To charge the crucible, and melt first the least fusible of the component metals.

2. When this metal is in fusion, to heat it up to such a point that it will be enabled, without too great a cooling, to bear the introduction of the other component metals.

3. Once the first charge is in fusion, to introduce the other metals in the order of their difficulty to melt.* Whatever are the proportions of the component metals, and no matter which is the basis of the alloy, it is absolutely necessary that the most refractory metal should be melted first. Its fluidity, indeed, gives the measure of the temperature necessary for finishing the alloy. By charging first a fusible metal, it may volatilize and become oxidized, and the crucible may also break by raising the temperature high enough to receive, without too much cooling, a less fusible metal. At the same time, there will be more waste, and the proportion of the alloy will be sensibly changed.

4. To present at the flame of the furnace the metals which are to be subsequently added, in order to heat them as much as possible, and thus facilitate the change of temperature which takes place when the new metal is added to that or those already melted in the crucible. This practice is especially good when we have to introduce a volatile metal, such as zinc, which, being melted too rapidly, may cause the crucible to break.

5. To stir after the introduction and melting of each component metal; and to cover the crucible, at the same time that the fire is increasing more or less, according to the less or greater fusibility of the metal.

6. To cover the alloys rich in zinc with a layer of charcoal dust. This is not necessary when there is not in the alloy any metal, such as copper or iron, having a high point of fusion; or when the proportion of zinc added does not require a protracted heating, and the alloy may be poured out immediately. With alloys rich in tin, the charcoal dust will cause the scorification* of part of this metal; therefore it is preferable to cover the surface of the molten mass with refractory sand or pulverized sandstone.

7. To stir thoroughly the molten alloy just before it is cast, and, if possible, during the pouring out. The stirring is to be done with a stick of white wood, burning without splitting; and not with an iron rod, which has a tendency to produce dry alloys, and may modify the nature of the compounds by adding some iron to the alloy—a small proportion, it is true, but nevertheless appreciable.

8. To carefully clean the crucible after each operation, in order to maintain the accuracy of the mixture, and facilitate the fusion.

Such are the main conditions for obtaining alloys in one operation. If alloys thus prepared give some trouble in obtaining good results, they are very economical, and present the advantage of keeping, as strictly as is allowed by the fusion, the proportions of the mixture.

Moreover, in practice, it is generally acknowledged that a small proportion of an old alloy, added to a new one, improves it by giving it the homogeneousness which otherwise would be imparted only by a second fusion.

In ternary or quarternary alloys, made of copper, zinc, tin, and lead, it will always be well, in order to obtain more homogeneousness in the final mixture, to alloy beforehand the more fusible metals, such as zinc, tin, and lead; and to combine this first alloy with the copper, under the best conditions possible. In this way the last combination will possess better qualities than an alloy made in one operation.

However, we repeat it, alloys made by the first direct method, although much more simple and economical, do not answer all the wants of the arts, and do not present the same guarantees as those which have been remelted. For instance, runners from bronze or brass castings of a first fusion, when melted again, and when the primitive proportions were good, present a better grain, and a metal without defects, which is more easily worked than another alloy made directly by one operation.

The pieces cast with alloys made by the direct method—we always mean those in which copper is a component part—are possibly less liable to breakage and shrinkage than if made from old metal; but, on the other hand, the surfaces are not so clean, and the grain is not so close and easily worked. Moreover, such alloys are not very fluid, and do not produce sharp casts. These defects are more to be guarded against in the case of statuary and ornamental bronzes than when pieces of machinery are to be produced.

As a rule, the oftener a metal is melted, the more it loses its previous qualities.

* This is a general rule, to be applied in most cases; but there are exceptions. For instance: gold will easily dissolve in melted tin, and platinum in many metals. If platinum were first melted, and zinc, for instance, added, the temperature necessary to obtain the fusion of platinum would be sufficient to volatilize the zinc.—*Trans.*

* The author uses the word "scorification," but we do not think that the term is entirely appropriate. Nevertheless, it is certain that charcoal is not favorable to alloys of tin and copper, and that pure clay crucibles are to be preferred to those of plumbago for such alloys. Metallurgists know that at a certain period of the refining of copper, the metal is carburized and brittle. In order to prevent this carburization, it has been recommended to give a coat of pure clay to the interior of plumbago crucibles.—*Trans.*

THE AMERICAN HISTORICAL RECORD

"The American Historical Record, and Repertory of Notes and Queries, Concerning the History and Antiquities of America and Biography of Americans," is the title of a new publication, edited by Benson J. Lossing, and published by Chase & Town, 142 South Fourth street, Philadelphia, which promises to be interesting and useful. Those with literary and antiquarian tastes will find in it—if the future numbers correspond with this specimen number—much rare information and a medium for the exchange of such items of history as are at present traditional or to be found only in books so rare as to be only accessible to few. The plan of the publication also comprises historical discussions and essays, current historical literature, records of the proceedings of historical societies, engravings, etc. It is a monthly. The subscription price is $3.00 per annum. Mr. Lossing is well known to the public as an author eminently fitted to conduct a magazine of this kind. We make the following extracts pertaining to early American industries:

BUTTON MAKING.—It is a notable fact in the history of American manufactures, that the first maker of covered buttons, Samuel Williston, is yet living. In early life he was preparing to enter the ministry, when his eyesight so failed that he was compelled to give up study. He kept a country store in which the wooden buttons, then in general use, were sold. His wife covered some of these buttons with cloth. They became popular. Williston and his wife contrived machinery to do the work, the first ever employed in the United States. An immense manufactory grew from this seed, and made half the covered buttons of the world. Williston's factories are still running at East Hampton, Mass., and he is worth several millions of dollars.

THE OLDEST DAILY AMERICAN NEWSPAPER.—On the 28th of October, 1871, the *North American and United States Gazette* of Philadelphia celebrated the one hundredth anniversary of its birth. It was first established by John Dunlap, in 1771, with the title of *The Pennsylvania Packet and The General Advertiser*, a small folio sheet, published weekly. It was an adherent of the republican cause in America. In September, 1784, Dunlap & Claypoole commenced publishing it daily, and it was the first daily newspaper printed on the American Continent. Its name was soon changed to *The American Daily Advertiser*. Forty years later it was merged into the *North American*. In July, 1747, *The North American* and *The United States Gazette* were consolidated with the present title; and since 1854, Morton McMichael (for a long time a partner in the ownership of *The North American*) became its sole proprietor, and remains so. It has been a deservedly influential publication during its century of existence.

A RELIC.—In Pittsfield, Massachusetts, is an anvil which was brought to this country in 1663, by Elweed Pomeroy, who had forged upon it the ponderous horse shoes sed in the reign of the first Stuart, King of England. Like the Egyptian anvil in the British Museum, three thousand years old, the Pittsfield implement, of precisely the same shape, is as sound as when the first blow was struck upon it.

COAL.—Bituminous coal was mined near Richmond, Virginia, so early as the year 1700; and a Richmond farmer used it in making shot and shell during the Revolution of 1775-'83. According to the statements made by Volney L. Maxwell, in a lecture at Wilkesbarre in 1858, anthracite coal was first used by Obadiah Gore, a Connecticut blacksmith in the Wyoming valley, in 1768. Jesse Fell, of Wilkesbarre, was the first to use it for domestic purposes. Philip Ginter, a hunter, discovered the Lehigh coal in 1791. The Schuylkill coal was first sent to Philadelphia in 1812.

Sewage Poison.

It had better be admitted at once, says the *Engineer*, that the specific property, that renders emanations from sewers and cesspools so dangerous to health, is not clearly understood. A gentleman of eminence has lately directed attention to the use of charcoal as an agent effectual for the absorption and destruction of sewer gases; but the question after all is, whether typhoid fever is produced by gaseous products exhaled from organic matter in a state of decomposition, or is attributable to the presence of a specific germ. It is certain that those whose calling brings them into daily contact with decomposing matters of the most offensive kinds are not affected by any special forms of disease; and it is also well ascertained that sewage emanations, possessing little or no offensive smell and not necessarily the result of decomposition, have produced typhoid and other complaints. There is no longer a doubt that cholera poison is a perfectly specific source of disease.

It has been collected from our sewers and experimented upon until its properties and characteristics have been clearly ascertained. It produces choleraic symptoms, of any degree of intensity proportioned to the dose employed and composed of such minute cells that it will pass through the closest filter. The probability is that other diseases are also produced by specific germs borne in the atmosphere; and if so, it will be unsafe to place implicit reliance upon charcoal or any mere deodoriser. Doubtless the gases that are evolved by decomposing sewage matter will, of themselves, seriously affect health; but there is nothing to show that charcoal has any effect in checking the spread of special diseases, or in arresting the passage of germs, of such minute dimensions that they will pass through finest filters and even elude the search of the most powerful microscope. The object of sewer ventilation is not, as is sometimes supposed, merely to purify or destroy foul and stinking air, but it has for its further aim the destruction or dilution of the insidious and probably inodorous poisons that associate with these foul smells. Where access can be had to furnaces and chimney shafts, complete destruction of all sewage products can be accomplished; but in the absence of such means, reliance must be placed on free dilution by discharging the sewer air above the roofs of houses and beyond the lungs of our populations. The experience and conclusions of Dr. Alfred Carpenter cannot, at this time, be too prominently placed before the public for it is only at a juncture like the present that they are likely to receive attention. He says: "Many facts have been brought to my observation as to the power of sewer gas to produce disease; as a factor in the production of typhoid fever its power is now well known. Many other diseases of the system have been directly traced to its influence; thus diarrhœa, dyspepsia in all its forms, palpitation of the heart, various forms of asthma, convulsions, especially in teething infants, and headaches, both persistent and intermittent." These, and a further list of complications, are the inevitable results of exposure to sewer gas whether it reach the system through traps from public drains, or attacks us more directly from soakage under our houses, or through the medium of a contaminated cistern or well.

The Pursuit of Strength.

Those unfortunates who devote their lives to the pursuit of strength, according to *Hall's Journal of Health*, who rise at unearthly hours, and shiver under ice cold shower baths, who never eat as much as they wish or what they wish, who live as mechanically as possible, and conscientiously deprive themselves of about all reasonable enjoyment, are certainly to be pitied. Still their terrible system leaves them alone during the night. If they eat, drink, move, and have their being under its supervision, through the day, at night they can sleep undisturbed. But a new school has arisen in California. Some crack-brained enthusiast has announced that he has prolonged his life for years by sleeping with his finger tips touching his toes. The reason of the advantage of this proceeding is not at first evident, but is easily understood when we read that "the vital electrical currents are thus kept in even circumflow, instead of being thrown off at the extremities and wasted." The discoverer has given the valuable secret gratuitously to the world, actuated solely by a desire to benefit suffering humanity. "Machines, warranted to hold the body easily in this position, can be obtained only of," etc., etc. If the method comes into general use, our posterity will, we fear, be a "stiff-backed generation."—*Chicago Tribune.*