Correspondence

Iron-framed and Wooden-planked Ships.

MESSRS. EDITORS:—The combination of wood and iron for ship-building, as adopted by me in constructing the propeller *Niphon*, is a subject of some interest on which I have to offer a few remarks and suggestions for the information of others. Iron ribs and wooden plank, in combination, were used by R. F. Loper, about fifteen years ago, when he constructed a propeller which has been, and perhaps now is, in the employ of the United States as a transport. More than a year ago he informed me that she was still quite a good vessel and had cost so little for repairs during that period, that I am really afraid to quote him for fear of being more than suspected of drawing a "very long bow." I think however, that he said it was only four per cent; if this statement be correct, she is a very remarkable vessel, and it is very wonderful that he has not constructed more of them, especially as he owns or controls the rolls wherein her ribs were made. Her ribs are not of "angle iron," but are in shape like the old-fashioned plate-iron keels, similar to a gutter, giving the plank more bearing than can be obtained by the use of angle iron, but leaving a considerable surface represented by the hollow side of the gutter, out of sight and exposed to rust without the possibility of painting it. Mr. Loper proposed to lubricate this surface by pouring on oil; this shape of rib was considered by me objectionable, and I substituted angle iron in building the *Niphon*. I also stiffened her by diagonal strapping on the inside of the frame—these modifications of Mr. Loper's original plan (secured by patent which he has lately renewed) are all the originality I claim in the matter. I may say in this connection, that I ascertained, some time after I began the *Niphon*, that the French and English had built several vessels of this kind, beginning about eight years ago, and that a number were then under construction in England and Scotland. In correspondence with A. & J. Inglis, of Glasgow, I found that iron-framed vessels with teak plank were considered the best compromise between wood and iron, insuring capacity, durability and lightness; and I doubt not that some of the fast blockade-runners are built on this plan.

I have quite recently obtained further information on this interesting subject from Mr. J. Wilson Green, of Liverpool, under date Dec. 29, 1863; he says substantially:—"There are many vessels of this class belonging to Liverpool, built there and in Scotland during the last six years, of which there are no complaints, and in some cases the classification stands as high as others; galvanized iron bolts will not do, under metal sheathing they should be copper or composition. Copper bolts through iron frames will not affect the frames without other agency; salt water will produce corrosion; it may be relied on, however, that years will elapse before the iron frames in a dry part of the ship will be materially affected by copper bolts. In 1819, my father built the ship *Duke of Lancaster*, the iron knees in the lower hold were fastened with copper bolts, in 1832 the knees showed no sign of galvanic action or injury from the copper bolts."

At the present time, with copper at 50 cents per pound, it would not do to fasten plank to iron ribs with copper, and I doubt if it would be expedient to do so at any time, because no ship can be said to be so dry in her bottom on the inside as to preclude galvanic action; steamers which are letting water into the hold by watering bearings, trying gage cocks, &c., can never be very dry in the most important part, the engine-room. I therefore dismiss the idea of fastening plank to iron ribs by copper or composition for the present, and will go on to the consideration of the general subject.

The *Niphon* came here to repair after her collision with the iron steamer *Ella and Anna*. At my suggestion the Honorable Secretary of the Navy ordered a survey on the hull with a view to ascertain if there was any sign of yielding in her peculiar mode of construction, or any deleterious action going on between the galvanized iron fastenings and the metallic sheathing on the bottom. The result of this survey shows that while the method of construction is found to be good, there is more or less destructive action going on between the oak plank and the galvanized fastenings, not the necessary consequence of iron rib and wood plank, but the inevitable result of contact between the said oak and iron, just as would be and is the case with all iron fastenings in oak, whether above or below the water-line in ships of the usual construction. The bolts taken out below the metallic sheathing showed, if anything, less corrosion or galvanic action than those removed from above the metal sheathing. I account for this from the fact that the tarred felting and the metal itself, with careful plugging, furnished more protection than the bolts had from simple plugging and paint above the sheathing. I was on the survey, and it was conclusively proved to my mind, that no serious corrosive action takes place by reason of the metallic sheathing, and this was the only doubtful point in my theory of the value of this mode of building when I commenced the *Niphon*.

Now comes the question as to whether the galvanized iron fastenings and iron ribs are equal, all things considered, to the usual fastenings of ordinary vessels, such as iron bolts and spikes and treenails above the copper line, and treenails and composition or copper fastenings below the same; this is an important question when comparing the new with the old mode of construction—time only can fully answer it. Meanwhile I would remark, that the increased carrying capacity, lightness, buoyancy, rigidity, superiority in a sanitary point of view, ease for discovering and stopping a leak from the inside (there being no necessity for ceiling in merchant vessels) facility for examining and replacing bad fastenings and planks, all concur in a remarkable degree in making the iron-rib vessel much superior to the ordinary wooden vessel, and in some respects superior to the iron shell, inasmuch as the former can be coppered as well as any wooden vessel. For merchant vessels carrying grains, especially rice in warm climates, and for vessels navigating our lakes where shoal draft is important, this mode of construction is much superior to the old wooden rib and ceiling, and this superiority will be much appreciated in fresh water, where wooden vessels rot very rapidly. It must be admitted, however, that the iron shell for fresh water is much better than either of the other modes of building. In a commercial point of view, and taking carrying alone into the account, the iron shell and the iron rib with wood plank, stand on the same footing; they afford a carrying capacity of about 15 per cent. over the ordinary wooden ship; this fact in the life-time of a vessel will make a very important element of success and ought to settle the question at least for the lakes; the interest on the increased prime cost and the insurance on the enhanced value of the iron rib, or on the entire iron vessel, being the only elements against the increased capacity as estimated. Supposing a wooden hull to cost $16,000 and an iron-rib hull $20,000, the extra expense of insurance and interest on this excess—say $240 each at 6 per cent., or $480 in the aggregate—would soon be made up by carrying 15 per cent. more cargo with the advantage of much greater durability. If I am rightly informed, wooden vessels suffer greatly on the lakes by rot, caused by the deleterious effects of grain sifting down among the timbers and ceiling, and there decaying, as well as from the absence of salt water. If this be true, and I cannot doubt the fact, iron-ribbed vessels, or entire iron vessels, are the most appropriate for the great lakes, and it is very wonderful to my apprehension that they have not been generally adopted in that region. A light iron vessel, costing even fifty per cent. on the hull more than a wooden one, would last one hundred years in fresh water, if occasionally painted, this increased cost would soon be paid for, as I have endeavored to show by the greater capacity for carrying, to say nothing of advantages already enumerated, and others not mentioned, such as the greater facility for constructing water-tight bulkheads for stowing grain in separate compartments, and greater general safety from the effect of fire and other casualties, both of which ought to make a difference in the rate of insurance.

Since the above was written I have been informed that in Sweden, vessels were built with iron frames and oak planks in 1842; they were planked with oak fastened by common iron, then doubled by plank fastened by copper. If the first layer of plank can be made of teak or yellow pine, this mode of construction would be made very perfect by putting tarred felt between the two layers of plank.

In conclusion I would cite another very important advantage of the iron rib and wooden plank over the iron shell, and this is the absence of condensed vapor whereby iron vessels are kept damp inside and are hot in warm weather and cold in cold weather. This would be an important element in a grain-carrying vessel.

R. B. FORBES.

Boston, March 16, 1864.

Names for the French Weights and Measures.

MESSRS. EDITORS:—I was pleased to see in your issue of March 5th [page 147], a few words urging Congress to establish the metric system of weights and measures in this country. A movement of such great importance should not be allowed to drop from want of urging; and I write this to call your attention to a concise and practical article on the subject which can be found on page 19 of *Chambers's Journal*, for January, 1863. One suggestion is so novel that I will copy it here verbatim. It is as follows:—

"In looking at the probability of the system being adopted here, a most important question arises; namely, what should be the names employed? It has been suggested that our present names should be retained with the new measures, weights, &c.; but it has been judged, and we think rightly, that such a step would involve increased confusion, and that it would be far better to give new names to new things. Indeed, the ill-success of a similar experiment tried in Holland is pretty decisive against such an attempt. But it is allowed that the French names would be alarming to English ears, and that our general population would have an invincible dislike to change their short words, as foot, yard, ounce, pound, &c., for kilograms and hectolitres. To meet this difficulty a very ingenious system has been devised by one of the witnesses, Mr. Fellows, of Wolverhampton, whose evidence is well worth consulting by any who wish to examine the question minutely. He recommends that the one-thousandth part of a metre be called *Th-o-m* or 'Thom;' but a thousand metres, *Th-e-m* or 'Them;' so also a hundredth part of a gram, *H-o-g* or 'Hog;' and a hundred grams, *H-e-g* or 'Heg.' It will be readily seen that the principle of this nomenclature is to take the initials of the number and of the measure or weight, inserting the letter *o* in the case of sub-multiples or parts of the unit, and the letter *e* in the case of the multiples. This certainly secures not only the briefest names that could be devised, but it explains the value of the quantity expressed in a manner which can hardly be mistaken by a person of the most ordinary capacity."

This project has been agitated considerably in England; and if we would adopt the system, the conservatism of that country would probably give way to the spirit of progress, and the system would soon become universal.

I intended to personally call the attention of the Congressional committee to the above-mentioned article, and endeavored to procure one of your papers in order to send a *marked* number with my letter to Washington; but was told that every number of the SCIENTIFIC AMERICAN dated March 5th was sold.

H. EDGAR JOHNSON.

Baltimore, Md., March 18, 1864.

What our Friends say of Us.

MESSRS. MUNN & CO.:—I enclose fifteen cents, for which please send me Nos. 16 and 19 of Vol. IX., SCIENTIFIC AMERICAN, which were lost from my file in the Post-office when I moved. I take good care never to lose a number after it gets into my hands. I am neither a mechanic nor a scientist, and hence have none of the practical reasons that nearly all your readers must have for taking the SCIENTIFIC AMERICAN; but, beside the pleasure I take in reading it myself, and in addition to its educational influence upon my ten-year-old boy, who always studies it with more interest than he reads his juvenile paper, it has every year taught us some household economy or improvement worth more than the annual subscription.

SAMUEL WILLARD.

Springfield, Ill., March 14, 1864.

How to Teach Geography.

MESSRS. EDITORS:—It seems strange that the idea has never occurred to teachers and others of orna-

menting the walls of school-rooms with maps, where they will be ever present before the eyes of the pupils. Not only would the monotony and bareness of the white-washed [?] walls be thus relieved; but by painting thereon large-sized maps of the globe, the continents, and even of the States and more immediate localities, they would soon become "familiar as household words" to the pupils. Then, by devoting a little time each day to the subject, by the whole school in concert, as was done with Mitchell's "Outline Maps," all could be taught much more thoroughly and rapidly than by the present system; and the knowledge thus obtained would be far more lasting.

N. C. D.

Washington, D. C., March 18, 1864.

Peculiarity of the Vision.

MESSRS. EDITORS:—Experience has convinced me that all kinds of eye-glasses should be circular and large, that is, larger than those ordinarily worn; a small oval glass with bright frame will confuse many a nervous person, and probably without the cause being known, or perhaps it is ascribed to coffee or dyspepsia, &c. French surgeons have produced insensibility in a patient by holding a bright object for a few minutes at six or seven inches in front of the eyes, while fixed upon it. Any of your readers desirous of testing it will hardly consummate the experiment. I have heard (but not seen) the doctrine illustrated thus:—Draw a distinct straight chalk line on the floor; then take a hen—I suppose a quiet one—and chalk a distinct line over her bill; hold her steadily a few moments with the line on her bill on that on the floor, and she cannot, when left to herself, move to the right or left. I have no hens and cannot test it; it is easy for those who have to do so.

R. H. A.

Baltimore, Md., March 21, 1864.

Poisoning of Water by Lead Pipes.

We have received from Professor H. Dussance, of New Lebanon, N. Y., a detailed statement of a series of experiments on the action of several different kinds of water on lead, under various conditions. The lead was subjected to the action of the water for 29 days, and the experimenter draws the following conclusions:—

"I conclude from the above detailed experiments—1. That distilled water has no action whatever on lead by three days of contact; after that time the dissolving action begins. 2. That the lead is dissolved by distilled water in proportion increasing every day; the distilled water exposed to the open air dissolves more of this metal than distilled water in close vessels, or than distilled water deprived of air and gas. 3. That creek water, containing small proportions of lime, has no action on lead. 4. That distilled water, containing 1-3500th of a salt in solution, prevents the dissolving action of the water on lead. 5. That water dissolves lead till the saturating power of the acid is exhausted. 6. That, in ferruginous water, all of the iron is precipitated by lead; then lead pipe must not be used to convey mineral waters. This fact has never been noticed before. To render these facts more interesting, another series of experiments must be made to ascertain the quantities of lead dissolved daily in the water, and what compound it forms, and to see if the action will be the same in lead pipes. This will form the subject of another communication."

Extraction of some of the Permanent Teeth of Children.

At the fifth annual meeting of the Central Society of German Dentists, held at Frankfort-on-the-Main, July 7th, 1863, the President opened the meeting by reading the sixth question in the programme, namely—"Does experience justify the removal of the four first permanent molars at an early period?" Several gentlemen joined in the discussion which ensued, from which we may gather, that while some advocated in all cases the extraction of the first permanent molars, on the ground that these, frequently hindering the proper expansion of the front teeth, were the most liable to disease, and the most difficult to save permanently, and that their removal would often avert unsightly irregularities; others considered that no special rules could be laid down with regard to their extraction, and that the expedience of the operation depended much on the state of the development of the jaws, and must be left to the judgment of the dentist. The general opinion prevailed that if these teeth were not to be permanently retained, they should be extracted as early as possible.

China and its Resources.

The resources of the Chinese empire, and the vast field it affords for commercial enterprise, now that its principal ports are open to the commerce of the world, are daily acquiring more importance. In this country alone the pecuniary interests engaged in Chinese traffic are enormous; and, although the seas surrounding China, as well as the great rivers running into the heart of the country, are alive—so to speak—with American steamers, our ship-yards and machine-shops are full of orders for more vessels for the same trade. To the people at large the resources of this great empire are comparatively unknown, and some account of them will no doubt be acceptable.

Tea is, of course, the great staple; the principal productions of China being tea, cotton, rice, and silk; the western provinces are also rich in minerals. Cotton was not cultivated in China until the thirteenth century; but tea, a more important feature in their trade, was known about the fourth, and introduced into general use about the ninth. From that time it has been the universal beverage, so that a Chinaman of tolerable position shrinks from unmixed water with horror. Tea is cultivated more or less throughout China proper, but its chief districts are in the maritime provinces and on the western hills. The most necessary qualifications for its culture are good drainage, moderate moisture, and rich sandy earth, with fair proportion of vegetable mold. These requisites are best obtained on the slopes of hills. The tea plants produce leaves when two or three years old, and last with care some ten or fifteen years. No less than four crops can be obtained from them. The first and best is in April, when the leaves are young; the second, and most plentiful, in May; the third, a smaller crop, is picked in July; and the fourth, whose larger and coarser leaves are destined to supply the wants of the poor, is gathered in August. During the year 1862 the export of tea from China to Great Britain was 108,523,000 lbs., 81,000,000 lbs. of which were retained for home use, and the rest was re-exported to the continent of Europe, to which the direct supply is very small, not exceeding 1,000,000 lbs. annually. Yet this large export is reckoned as but a fractional part of the Chinese consumption. It is drunk at all meals and in all places, by every rank and class, and to insure freshness and quality is taken in small quantities, very weak, and without milk or sugar. This description does not seem very attractive to an American tea-drinker; but tastes may differ in different quarters of the globe. It would certainly appear so, since the stalks and refuse are compounded into small square cakes, and sent to Mongolia for the benefit of the wandering Tartars. It is conjectured that the amount of tea consumed in the Chinese empire is somewhere about 1,000,000,000 lbs. It holds, in fact, a position in China corresponding to that of rice, though the latter is the more vitally important, since the very existence of the population depends in a great measure upon it. The chief rice-producing districts lie in the south-eastern provinces, where it is not unusual for the field adjacent to the rivers to yield five crops in two years—two good crops a year being the regular supply. To the north of the Yang-tse-kiang only one crop is obtainable; and, in the mountainous countries, where the inhabitants depend on the import of rice from the south, great privations are common. It is, therefore, a matter of vast importance that the supply of rice should be good, liberal, and all details connected with it receive the most careful attention from the Government. The rice harvest is, it has been said, the most momentous question with which the Emperor and his advisers have to deal.

The writer of an able article in the *Quarterly Review* remarks, that it is a great mistake to look upon China only as a country that exports tea and imports opium. Such exports and imports are comparatively unimportant. The greater part of the cultivated land is employed in the production of the food necessary to supply the wants of an excessive population. The Chinese people are unanimously represented by those who know them best as cheerful, thrifty, and ingenious, but selfish and materialistic to a degree. They are jealous of foreigners, though kind and hospitable, and deceitful, in common with all other Eastern nations. They are prudent and quick-sighted as to their own interests, and shrink from a military life as unprofitable.

Home-sickness as a Malady.

The *Medical and Surgical Reporter* has an interesting article on this subject, in the course of which it says:—

"Nostalgia is an affection of the mind. It must be treated with that view. Any influence that will tend to render the patient more manly will exercise a curative power. In boarding schools, as perhaps many of us will remember, ridicule is wholly relied upon, and will often be found effective in camp. Unless the disease affects a number of the same organization, the patient can often be laughed out of it by his comrades, or reasoned out of it by appeals to his manhood; but of all potent agents, an active campaign, with its attendant marches, and more particularly its battles, is the best curative. When men have passed through the baptism of fire together, they feel that they have something in common. They have a common name, a common fame, and a common interest which diverts their thoughts away from home. When I took charge of the One Hundred and Twentieth New York Volunteers, about one year since, they were losing men by death daily. That it was not due to local causes was proved by the fact that adjoining regiments, exposed to the same local influences, lost none, and of the patients at our division hospital, with the same diseases (typho-malarial fever and camp dysentery), those from the One Hundred and Twentieth died under the same treatment that the others got well on. The regiment is from one of the river counties of New York State. Nearly all who died were farmers. Those who were sent on furlough got well, while those who remained died. Battle is to be considered the great curative agent of nostalgia in the field. The One Hundred and Twentieth was a new regiment, comparatively. They, without ever having been in battle, were brigaded with the veteran 'Excelsiors'—they had no *esprit-du-corps*—they were home-sick. Nearly one-half of the express boxes sent to the division at Falmouth were for that one regiment. The regiment was but a regiment in name—its thoughts were all at home, while its members were here. At Chancellorsville they fought nobly—they won a name—they had something to be proud of—they gained an *esprit-du-corps*—their thoughts were turned from home, and they felt they were men and soldiers; peers of the veterans with whom they associated; and from that day to this, there has been but little or no sickness, and but two or three deaths. But when nostalgic patients in the field cannot be granted furloughs—cannot be laughed out of it, and there is no campaign in progress, they should be kept at work. Idleness is a provocative of home-sickness. Let the patient be hard at work all day, and he will have a relish for his rations, and will sleep soundly at night, having little time to think of home. If his nostalgia is co-existent with some other disease, use every endeavor to keep him cheerful, and divert his thoughts from home; but if he is suffering from chronic dysentery, or typho-malarial fever, or is inclined to phthisis, and he becomes decidedly nostalgic, be extremely guarded in your prognosis. The patient will very probably die."

A MAMMOTH DOCK—The New Orleans *Times* states that an enterprising firm belonging to that city and Algiers has now a mammoth dock nearly completed on the Ohio river. It is 300 feet long, with 90 feet floor, built almost entirely of white oak. Over 300 men have been at work on it for a long time, and three saw-mills are employed in turning out the necessary lumber and timber. This dock is to be completed and delivered by June 1st. It is large enough to take on a ship of 5,000 tuns, drawing 22 feet of water. The *Pensacola*, *Brooklyn*, *Hartford* and vessels of that class can be admitted readily, or it can accommodate any two vessels of 700 tuns at the same time. The cost of the dock will be over $250,000.

THE ruler of Cashmere has recently taken stringent measures to prevent the further manufacture of the inferior shawls which are now sent in such large quantities to Europe, so poorly made as to be nearly unsaleable. In the city of Siree Nugger, or Cashmere, there are seventy thousand persons engaged in the manufacture.

Improved Grist Mill.

This excellent mill is intended for general grinding, both for the farmer and mechanic. It is constructed of iron in its principal parts, and is not only strongly made but is powerful in its operation and very durable; it is not at at all liable to derangement and may be operated by almost any one. By the adoption of this mill the farmer can do all his meal and feed grinding at home, and save both time and toll in going to mill. These mills possess new features in the construction of the grinding plates, a view of one of which is given in Fig. 2. The inventor says:—

"The teeth, A, are all formed in shape like the letter, Y, the lower part of each tooth in its row connecting with the upper part of the next below, and so on through the whole series in each radiating row of teeth, the extreme point of each arm of every tooth alternating in its circle with those in the next row in the next circle. By this arrangement and the shape of the teeth the pulverized stuff in the mill is forced, as well as ground, toward the periphery or discharging edges, and this occurs whether the motion is fast or slow, the mill grinding faster as the motion is increased. The teeth being all raised up over an eighth of an inch from the plane of the plates gives exceeding durability to the mill, which grinds freer as the teeth becomes worn, so that by reversing the motion the teeth are sharpened —one side of all the teeth are continually sharpening while the other sides are becoming dull, this being a self-sharpening mill, running either way equally well. The frame is cast in one piece, giving firmness and strength to the mill, and the grinding plates are easily removed and replaced by removing the hopper from the hopper-bed and placing the cob tube in its place with the open slot at the descending front corner of the crusher. Corn in the ear or any large substances can be put in by hand, such as ginger, mace, cut stalks of tobacco, calcined bones, rhubarb and drugs in general. The 'Nonpareil Mill' has been tested thoroughly, having been in use for custom grinding nearly three years; it has ground as high as twenty-five bushels of feed per hour, and yet no renewal of plates is required.

Fig. 1.

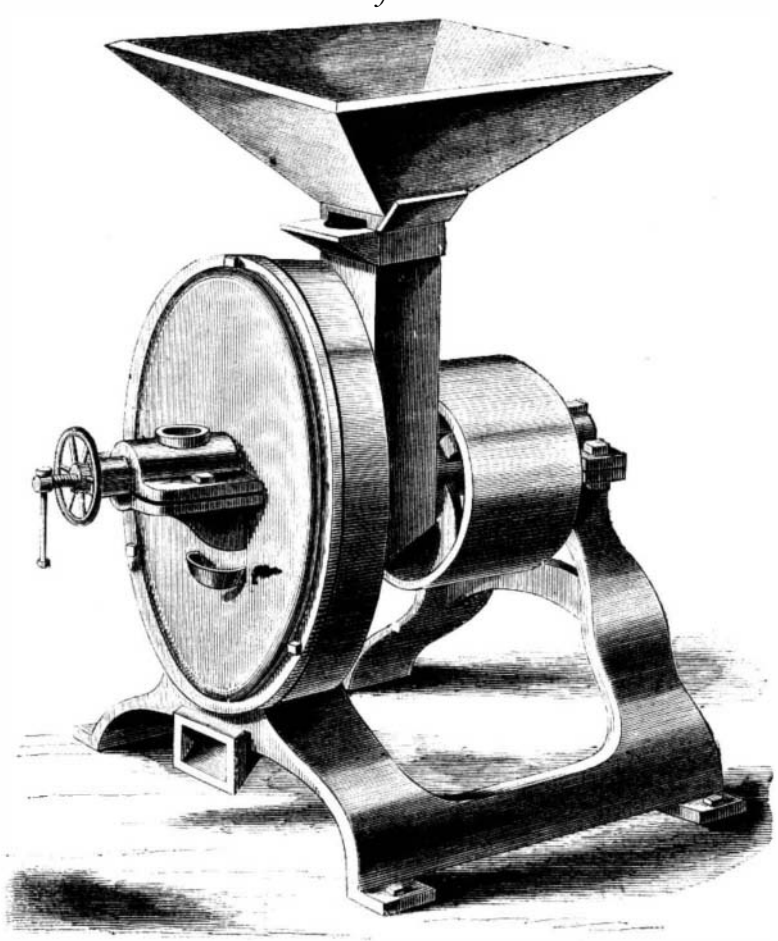

Fig. 2.

"The highest premiums for the best farm mill were awarded to these mills at the two last Ohio State Fairs, and also at the Indiana State Fair of 1862. Believing that this principle for iron grinding mills will eventually supersede all others made from iron, from the smallest coffee and spice mill to the largest custom-feed mill, the inventor solicits a thorough trial and test of his mills by any parties interested in iron grinding mills, whether manufacturers, millers, manufacturing druggists, coffee and spice grinders, or farmers. State rights for sale."

The inventor is confident that he has obtained the proper form for the teeth of his grinding surfaces, and the large number of testimonials and certificates which have been received by him show, at least, that those who are using them are well satisfied. This, it will be admitted, is the main point with them, and is good evidence in the inventor's favor.

SEDGEBEER'S NONPAREIL MILL.

Patented July 8, 1862, by J. Sedgebeer, Painesville, Ohio, from whom further information may be had by addressing him as above.

PATENT EXTENSION SCHEMES.

We print in another column [page 211] a candidly-written article from the Bridgeport *Standard*, against the applications now pending before Congress for the renewal of certain well-known patents. The article referred to, takes substantially the same view of the matter as has been held by the Scientific American; and we are glad to recognize its justice. The press is beginning to wake up on this subject; and we trust that all our cotemporaries will come out boldly against these unrighteous schemes. There is great danger that they may succeed; and nothing but a bold opposition on the part of the people will defeat them.

Coast Signals.

Some public-spirited individual writes the appended letter to the Stoughton (Mass.) *Sentinel*. Apparatus similar to that mentioned by the writer alluded to is now in use; but he advances some original ideas which are worthy of attention:—

"Having been impressed with the idea that some kind of a trumpet or whistle might be made that would be very useful to give warning to seamen when located on dangerous rocks and shoals, to ease my mind I have concluded to give some of my ideas for you to dispose of as you may think proper. The trumpet for this purpose should be like the common ones, except in size, with a shell attached to the mouth-piece like a small egg-shell, with a whistle or reeds, as scientific men versed in such instruments may determine, with another larger shell over it, with space between sufficient to blow through. I should think when blown this would be a sufficient warning in fogs. Not knowing what sounds are produced by the wind, rigging and waves, I suggest none, for I never heard them. Some of the methods of blowing are by a pipe (the right length and dimensions of which would depend on the size of the boat to which it was attached), to rise and fall perpendicularly in the water with the motion of the boat, with a tube leading from the pipe to a trumpet. Any one wishing may see the principle on which it works by taking a keg, knocking out one head, bore a hole in the other and passing it up and down perpendicularly in the water. Another way may be possible by a ball fitted inside of a tube to roll back and forth by the motion of the boat, with valves inhaling and exhaling as the case may be, and tubes leading to the trumpet. Possibly weights might be suspended so as to swing and blow a bellows, or perhaps weights to run on a trundle to be passed back and forth by the motion of the boat, with a rod entering one end of a tube and a piston on the end to pass back and forth in the room of a ball; or perhaps the waves, in passing a boat, might turn side wheels and blow a bellows. May not such a one be sufficient for calms, and cannot one be blown in storms by wind? and may not the sound be increased by the bigness of the trumpet and the number of whistles blown in it? Now, cannot some of your readers study out and put in operation an invention of this character which will be of so much value to sea-faring men?"

Adepts in Commercial Puffing.

From the advanced sheets of Appleton's forthcoming work of "Business Anecdotes" we extract the following:—

"By universal consent the world has accorded to the late George Robins the palm for commercial puffing. His advertisements were really artistically written. He did perhaps go beyond the yielding line of even poetical license, when he described one portion of a paradise he was about to subject to public competition, as adorned, among other charms, with a 'hanging wood,' which the astonished purchaser found out meant nothing more nor less than an old gallows. But then he redeemed slight maneuvers of this kind by touches which displayed a native and overflowing genius for puffing. On one occasion he had made the beauties of an estate so enchanting, that he found it necessary to blur it by a fault or two, lest it should prove too bright and good 'for human nature's daily food.' 'But there are two drawbacks to this property,' sighed out this Apostle of the Mart, 'the litter of the rose leaves and the noise of the nightingales!' Certainly the rhetoric of exquisite puffing could no further go."

The English "Blakely" Gun.

Captain Blakely (whose large guns have proved so successful) has received orders from the British War Office to manufacture an "800-pounder gun," which is to be fired at the Royal Arsenal, Woolwich, with increased charges, up to "destruction point." The experiment is looked forward to with much interest. The English system of rating guns is so peculiar that we derive very little information from the term "800-pounder." There is a rifled gun in this country only 2 inches bore, which might, with equal propriety, be called a "10-pounder," for the bolt is 12 inches long and weighs about $10\frac{3}{4}$ pounds, yet it would be no test of the endurance of a 10-pounder to fire this weapon until it burst.

The Ames Iron Works at Falls Village, Conn., are running a strong force of hands upon its contract for wrought-iron cannon, and will complete the first one in April. These guns are a novelty to our Ordnance Department.