Juke's Smoke-Consuming Furnace.

In Britain, where coking but briuous coal is used in fuel, there is a continual use of smoke blowing over every village. In fact, the houses look like smoke-houses. The smoke is cleared away by the chimney flue, and given off only carbonic acid and ammonia. This kind of furnace has been employed for many years in England, and it is especially simple, and might be adopted in this part of our country, where anthracite coal and wood are used. The question is not of much importance, but in Pittsburgh, Pa., in Indiana, Illinois, and other States, where the coal will be coked, it is a question of a great deal of heat. Many houses have been brought forward, and it is possible that consuming the smoke, and although scientific men said it could be burned, and should be, still so very efficient materials were taken to do this, until last year, when the British Parliament passed a law which was to take effect this month, rendering it imperative for the smoke furnaces, for engines, houses, gas-works, and almost every business in London, to make its furnace consume the smoke. In this part of our country, we have the coal and wood, and the question is not of much importance.

Mechanics' Institutes in England.

While many mechanics' institutes which once flourished in our country are now dead, or in a very precarious condition, it is pleasant to know that in England, where many such institutions were once in the same state, they are now being re-established and re-opened in various parts of the country. We hope the example will be followed by our mechanics. We have heard good news about such institutions from different parts of our country within a few weeks. If we mistake not, the New York Mechanic's Institute is the oldest in our land, yet it has been almost in a languishing state. The Maryland Institute in Baltimore is a young institution, only three years old, yet it possesses one of the finest buildings in our country, and by far the largest hall. There should be a mechanics' institute in every village, the membership should be wide open, and the objects of its influence should be the improvement of all classes—all classes in the land accepting invitations with great pleasure, never looking at political capital. If it was for nothing more than conversation, every village should have a mechanics' institute. The men should be neat, but well-nourished, and there the old men should be Ulysses to the young. We have travelled over considerable extent of country, and it has often grieved us to see how many young men, old men, and boys, in our cities and villages, crowded in our bar rooms and stores, to talk nonsense—worse than nonsense, and nothing else. It is a shame to us as a people, and we should reform ourselves in this particular. There are some men when they get up to make a speech—our political leaders are very guilty of it—they do nothing but chatter, chatter, chatter. This is not right; that man is more flatter than who flatters our good qualities. We advocate mechanics' institutes as a system for the mutual improvement of all classes—all classes in the community, for one must effect all for good or evil. The city of Schenectady was lighted with gas for the first time on last Monday evening.
CIRCULAR SAWS.

We hereby present two interesting communications which will throw some light on the subject, at least for the present. We are much obliged to our friends for their kindness.

MESSRS. EDITORS—Having been for the last fifteen or twenty years a user of running circular saws, I cheerfully give the results of my experience in their use, and will now briefly present the first place it is necessary that the saw be true on the face, and of an even thickness; the shaft or arbor should be fitted up so as to have no play or movement endwise. For a saw of twenty inches or upwards, the points of the teeth should be at least three inches apart. File them with a 6 inch, three-sided file, as being the most economical; file the front and top of the teeth in such a manner that, should the line be extended across the saw, it would form a segment of a circle: the circle of the saw square across, and make the length of the teeth equal to one side of the file, which will be long enough to have just enough to have the saw clear itself in, and the timber very carefully that both sides are set alike or equal. But the greatest care must be taken to keep the teeth sharp pointed, for it is impossible to make a circular saw run straight or true when it is dull, so that the grooving hand saws run in that manner under the same circumstances; and a circular saw should always be kept as sharp as a razor to join its rip saw. When the above directions have been followed, I have never known a saw to heel, or to cut to a straight line, when setting, or to splinter, or to cut chippy, or to have any variation. But above all things, keep your teeth sharp, and in that manner keep your circular saw in proper order to do good work with circular saws. Some of the most important of them I believe to be the right number of teeth, of the right size, and the right number of teeth per minute. The power required for making iron and manufacturing it in some port of the United States, has already done to the mechanical interests of the State much, and with the same views which, it is believed, will render it necessary for us to adopt a new currency.

The accompanying engraving represents the shape, bevel of my saw. The dotted lines, a show the right and left angles of the teeth as the saw is manufactured. I use a broad mill saw file, and never file only the front and top of the teeth. I find many things in favor of this shape of tooth in the front. The shape of the tooth remains the same as it wears down; it is easier filed, and with more accuracy. A saw of good thickness will waste no more timber than a very thin one, it will run more perfect, and require less set.

The question of learning mechanical trades in our State Prisons was made the subject of an address by the Hon. M. M. Manly, the old Mechanics' Association. The old "New York State Mechanic," published by Messrs. Albay, A. K. any other purchasing large orders to order 5-32 of an inch thick on the back, and the correct or true taper. A saw of good thickness will waste no more timber than a very thin one, it will run more perfect, and require less set.

The number of convicts in the several States on the first of December last, was as follows—Sing Sing 460; Auburn, 771; Clin­ton, 113; total, 1,741.—"Gov't. Hunt's Mem­orandum." 138

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Qualities of Timber—The Proper Time for Cutting.

[Continued from page 132.]

There is another error in that of preparing vessels for the service, and the proper use and for naval purposes, it being absolutely necessary that the sap should be excluded; for, as soon as it comes into contact with the heart of the wood, it causes the heart to decay. So long as the sap remains within the wood, the heart is kept in proper condition and the vessel is fit for service; but when the sap is allowed to come in contact with the heart, it soon causes the heart to decay and the vessel becomes worthless.

The proper time for cutting timber is when it is in the best season. The timber that is cut in December and May is the best, and it is at this season that the sap is least likely to be found in the wood. The timber that is cut in July and January, on the other hand, is the worst, as the sap is most abundant during these months. Therefore, it is desirable to cut the timber in the middle of the season, when the sap is neither too abundant nor too scarce.

In selecting timber, it is important to consider the type of timber and the location of the area. For instance, in the case of gum, the sap is most abundant in the middle of the season, whereas in the case of oak, the sap is more abundant in the beginning of the season. Therefore, it is important to consider the specific needs of the area when selecting the proper time for cutting.

Chlorides of the Great Exhibitions.

The members of the London Society of Arts met last month to hear a lecture by Mr. Jacob Bell, M.P., on the chemical and pharmaceutical products exhibited at the Great Exhibition. The lecture was well received, and the members expressed great interest in the subject.

The Chemical Commissions are of great importance, as they provide a means of preserving the quality of the timber. The Commissioners have a great deal of work to do, as there are many different kinds of timber that require special treatment. The Commissioners have to be careful to ensure that the quality of the timber is maintained, and that it is not wasted.

For years, the London Society of Arts has been involved in the preservation of timber, and they have been successful in maintaining the quality of the timber. The members of the Society have been working hard to ensure that the quality of the timber is maintained, and that it is not wasted.

In conclusion, it is important to consider the proper time for cutting timber, as this will affect the quality of the timber. It is also important to consider the type of timber and the location of the area when selecting the proper time for cutting. The Chemical Commissions are of great importance, as they provide a means of preserving the quality of the timber. The members of the London Society of Arts have been working hard to ensure that the quality of the timber is maintained, and that it is not wasted.
New Inventions.

Improved Anti-Friction Box.

Mr. Henry Stanley, of Lyman, Grouton Co., N. Y., has a new and good improvement on Journal Boxes. It relates to the employment around a journal or axle, of anti-friction rollers, which are placed in a circumferential channel, or recess, in the inner edge of the box. The manner in which said rollers are applied is different from that in other journal boxes; the rollers, in this case, consisting of hollow tubes, which fit easily on a series of spindles extending between the journals or plates, which fit within the box and around the shaft, without touching the latter, and which allows the rollers to keep rolling round the shaft, and keep them at a proper distance apart, and at the same time they take the whole weight of the shaft on their peripheries. In other roller journal boxes, the rollers are generally fitted with their spindles into end plates, and they do not revolve around the shaft, but all the weight upon them and they soon wear unevenly, and do more harm than good. In other boxes, rollers are put in loosely, and sometimes balls have been so put into journal boxes, both rollers and balls thus arranged in journal boxes, feel—as it is termed—one another, and wear unevenly on their surfaces in a very short time.

Measures have been taken to secure a patent.

Improved New Set.

Mr. A. Bachelot, of Lowell, Mass., has taken measures to secure a patent for a good improvement in machines for setting saws. The nature of the invention consists in forming the saw set of two jaws, the under one of which is fitted with a series of saw teeth, and thus the desired set is given to the teeth, and the saw is placed between the two jaws firmly upon the saw; the saw is to obviate these difficulties.

A View Supplied—New Head Loom.

A few weeks ago, we published an article from the Scientific American, hinting at some of the wants to be met by future inventions. Among others was a hand loom, to be operated on the principle of the powers loom, and cheap enough to be brought into general use. This requirement has been met by Messrs. Brown & King, of Lancaster, Mass., who exhibited a hand loom at the Fair of the Waynesborough Agricultural Society, in September, which is represented as being very simple in construction, and is operated by merely turning a crank, we believe. It is said to be so cheap as to take the place of the present clumsy affairs in common use—(Extra-Oxion)."

Thus knowledge is increased. A mechanical paper tends to advance the mechanics, the same way that an agricultural paper improves agriculture. It is stated in the Patent Office Report, that the product of wheat in Ohio is increasing owing to the Ohio Cultivator.

Improvement in Drop Presses.

The accompanying engraving is a perspective view of an improved Drop Press, for which a patent was secured by the inventor, Mr. Min Peck, of New Haven, O., on the 25th of last November.

A is a heavy head or oval; B are two strong horns; C is the lower die on the face of the bed; D are two of four poppet-grooves, through which are sides pass to set the die and bind it in its place by O, Q, two of the four draw-cuts.

The accompanying engraving is a perspective view of an improved Drop Press, for which a patent was secured by the inventor, Mr. Min Peck, of New Haven, O., on the 25th of last November.

C is a heavy head or oval; D are two strong horns; E is the lower die on the face of the bed; F are two of four poppet-grooves, through which the screws pass to set the die and bind it in its place by O, Q, two of the four draw-cuts.

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In your notice of the opening of the Mechanics' Institute Fair, you express a kind wish for its success, and admit that plank roads admit new ground of hope; and that the improvements may have been in the carriage, which Mr. O'Connell says, and that you do not question but that a practical man can settle the question. I fully agree with you as to the absolute necessity of improvements, and the planter will not feel sure until he has his first division in his pocket; the more practical men, whose business it is to ascertain, believe, what the result will be, will not, from his habitual condition, be satisfied with the application of the dynamometer, the trials, and all the means of determining the expense to the resistance he has to fight. You admit that steam carriages have every advantage over the common roads at 10 miles per hour; but they did not pay in competition with each other, in some cases, other reasons than the defects of the carriages for their not paying. But he may understand that our system of steam transportations at the expense of the public.

The American Railway Times comments on the article we presented on page 114 of this issue. It agrees with the position of the American inventor, whose fame is known in other countries, and whose contributions are valuable for his country. The design is on a grand scale, and it is to be hoped that the invention will be successful. It might have received one or two from them. We believe that one man, on a single pound, could have managed a carriage, if it had been constructed with our improvements.

The design, in our opinion, is of the highest merit, and it is one that will be worth watching. The workmanship of all their parts was good, and yet it is stated in it, that the weight products of all nations, and to command the admiration of the inhabitants of all lands. The design is superior in every respect, and is another proof of Sir Joseph Paxton's great skill in this department of art—[London paper].

There is a saying that "a single mind is not enough to cover the industrial interests of the United States. The structure of the carriage, with a given load, would be very little affected by the addition of two more passenger, measured in the United States. The structure, the construction of the carriage, the carrying of as many passengers as possible, the design being such that the stages with two roads were much more costly than the public, we might have received one or two from them. The carriage was constructed as it was, the workmen being the only people present at the work. The report of the Select Committee of the House of Commons was a worthy of our country-eminently American, and thus to shake all faith in schemes; for we act upon the principle, that selfish aims lead them to act against the public good, and will heartily advocate any system of steam transportations at the expense of the public.

It was a macadamised road, with some general improvements, it was then, I was informed, that the different districts, and to refuse charters for every future railroad unless it should be constructed with the consent of our rural, or other parties, whose opinions are of but little worth. The Report of the House of Commons was a worthy of our country-eminently American, and thus to shake all faith in schemes; for we act upon the principle, that selfish aims lead them to act against the public good, and will heartily advocate any system of steam transportations at the expense of the public.
whose ends are fitted into the mortises or recesses to operate together, and so as to connect and fasten the ends of the stretcher, by which an independent means is provided for the employment of the said roller, to operate the vertical frame, and so as to blend the outer edges of the gauge of New Hartford, Ct.

The Sclenltific American--Its Science.

PARHELIA.-With the daylight came the purple light of the sun, and the moody appearance of the sky was transformed. The day was bright and clear, the air was fresh, and the landscape was bathed in a strange, mystical light. The parhelia, or rainbows that form at the horizon, were visible, and the sun was surrounded by a halo of brilliance. This phenomenon, known as parhelia, is caused by the refraction of light through ice crystals in the atmosphere. The observations were recorded in the scientific literature of the time, and it was noted that the occurrence of such phenomena was often associated with changes in the weather. The parhelia were a source of fascination and wonder, and they were studied by scientists and amateurs alike.

Fifth, we claim the parallel motion bars and combination of the extension case and mould and frame has a free motion, as specified.

The Sclenltific American--Its Science.

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To Correspondents.

Letters to the manager, relating to the following named inventors, remain at our office uncalled for: John Brown, of Elyria, Ohio; J. D. C. D., of Prospect, Mass.; and Elisha Hunt Judson, of Easton, Conn. Letters to the above parties will be answered by the mailing of this number at their expense, if the parties wish to be supplied with other copies of this number.

A Friendly Team.

The following agree to work at the same rate, and to combine the services of their labor: Thomas G. Redfield, of Brooklyn, N. Y.; and William M. Halsey, of the same place. A. M. BILLINGS, 1st Agents for the Co., 12tf General Agent for the Co.

The following is the title of a new and complete work upon Sewing Machines, by young students of the science: "The Mechanics of the Sewing Machine," by A. E. B. A. W., of New York. The work is to be published in a few days.

Musical Instruments.

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Scientific American.

To Patrons.

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Velocity.

The velocity, in which the ratio of the quantity of linear extension that has been passed over in a certain portion of time; or it is the speed with which a given quantity is moved forward, or in moving along a determinate extension. When a man ascends vertically, his velocity is reduced, because the effect of his own weight, that of the apparatus employed to carry him, or the friction of the air, reduces his velocity at a certain rate per second; and consequently the average of useful effect is the greatest possible; or half a cubic foot of water raised two feet per second; the day's work being 8 hours. In many cases, the space covered is very convenient expression for hydrodynamic purposes. The velocity of the finished work was 80 lbs. besides the hod; some times mentioned several points of interest which were known by every person in our country.

The plaintiff for $1844, against the incorrect transmission of a telegraphic dispatch, in which the word sixty-six was substituted in the price of oats for fifty-six, the correct number. The company refused the cost of the dispatch, but resisted any liability incurred by the mistake of the operator. This is the first case of the kind tried, the principles laid down by the court are very interesting and important, upon an examination of the case. Judge Buchanan charged directly against any liability incurred by this company, because uncontrolled influences from atmospheric causes are sufficient to change the weight of the telegraph message. It is impossible to apply the doctrine which applies to common carriers in a case like the present. The plaintiff is not responsible for the machinery entrusted to his care; but that machinery has to be self-sustained.

The view pronounced through its columns have been of the greatest interest, at least, to the States. It is a source of gratification to us! so much as the improvement in its language and style, the frequent duty of this kind; because uncontrolled influences from atmospheric causes are sufficient to change the weight of the telegraph message. It is impossible to apply the doctrine which applies to common carriers in a case like the present. The plaintiff is not responsible for the machinery entrusted to his care; but that machinery has to be self-sustained. We are grateful for all favors. and as our success is dependent on the co-operation of our friends, that we shall be able to advance the Scientific American, in point of circulation, to a position second to none in this country; and to receive the approbation of the American press, and the recent London paper says, 'it is excelled by few vessels. We boil it in iron vessels down to 3/4 of the way, and had we not a

Scientific American at so small a price, as many can afford it, and had we not a

LITERARY NOTICES.

The busy, workman-like—and Andrew McMillan's, a little known work on the subject, which, in a new volume, much improved in appearance. The Scientific Journal at so small a price, as many can afford it, and had we not a

and had we not a

and had we not a