# Scientific American.

Scientific American rapidly in the knowledge and skill of the in- page 17, this volume, Scientific American, and dustrial arts as these United States within the our readers will acquire a perfect understandand all kinds of machines. We are not for the character of "the master mechanics of cal section of figure 1 taken, through the dotdustrial Colleges in every state, the time will parts. soon arrive when this character will be ours.

Miller's Evaporator.

The annexed engravings are views of an evaporator for marine steam boilers, to supply to distil from salt water any deficiency of the any deficit of pure water by the surface condenser of James. M. Miller, of this city. The little will be required, but it is best to have condenser was illustrated and described on appliances to meet every emergency. Salt

past 20 years. Every machinist knows what | ing of the whole subject by consulting the great improvements have been made in tools said description in connection with this one. Figure 1 is an outside view of the evaporamarching forward merely, but running a race tor, and figure 2 is an interior view—a verti-

the world." With the establishment of In- ted lines, D C. The same letters refer to like

This evaporator is simply a distilling apparatus, constructed with tubes of the same kind as that used for the condenser, and is merely fresh condensed water for the boilers. Very

water is introduced inside by forcing it by a over and over again for the boilers, and thus pump through the pipe, Z, which can be meet any loss.

The surface condenser was the first which was tried by Watt, but he found so many difficulties connected with it, that he early abandoned it for the jet condenser, which allows the condensed water to flow away along with the injection. A good surface condenser for steamships is certainly a very desirable apparatus. The use of fresh water for the boilers instead of salt, which is now used, would save at least one-fourth of the fuel, and would in respect to its action upon the boiler, enable one to endure twice as long. Tubular boilers, owing to incrustations being so liable to form in the necks of the tubes, have always been objectionable for using salt water, although otherwise they are by far the most economical as steam generators. A good surface con-

Stoves, Something Wanted. own credit and that of our country. Stove deresidents and citizens." We affirm that it is wards of 20,000 operatives are systematically studying the elements of science and art. In There are perhaps one hundred stoves made signers seem to be smitten with the idea that the duty of the British Government to proin these United States, for one in any other combinations of flowers, scrolls, &c., constitute the capitals of the German States there are vide a means for foreigners obtaining patents country of an equal number of inhabitants the very perfection of their art. Do the flowcentral institutions of the nature of industrial in the colonies, since they cannot obtain such There is an old saying, " practice is perfection," universities, the object of which is to teach ers of sculpture and architecture constitute the privileges by Colonial authority. which should be true, but common savings are the principles of science and art applicable highest degrees of these arts ? No, they are to Another New Motive Power. not always truthful ones, for assuredly we are the statute and temple what binding and lace to production, preparatory to their being after-In the "New York Tribune" of Saturday far from having arrived at perfection in the are to a coat, they cannot make it look graceful wards practically followed out in the operalast, Darius Davison publishes a long advertions of the factory and the workshop. The manufacturing of stoves. We are not in posor pleasing to the eye if it is of a bungling tisement about some new motive power which session of the statistics of the stove trade, but form. More attention should be devoted to importance of these technical colleges is rehe has discovered, that is to save 90 per cent. we have no doubt that it is one of the most the general form of parlor stoves; the French ognized by even the smallest of the German of fuel. One such Power is enough at once; extensive and prosperous in our country.display much taste in the few stoves which States, which support them at considerable exwe hope he will bring it out soon, so as to With all our extensive practice, where is they make. pense. In the institution at Carlsruhe (Baden) give the public a view of it. We are prepathere a stove to be found that has not some We have never seen a stove of a perfectly with its museums, laboratories, and workred for the "Wooly Horse" whenever he convenient construction for domestic use, esshops, there are 330 pupils, whose training is glaring defects. Our parlor stoves are destimakes his debut. Those sea captains who tute of tasteful and chaste ornament. The pecially in the cleaning out arrangement, and superintended by 21 professors and teachers. trust to good sails save 100 per cent. of fuel'; great majority of them seem to be design- for kindling the fire. Cylinder stoves, al-The Central School of Arts and Manufactures Mr. Davison is therefore ten per cent. behind ed upon the principles of elaborate and coarse though very neat and excellent in their way, in Paris annually educates 300 pupils in apthe old sea marks yet. The next discovery flowered surfaces, as if these constituted the are exceedingly inconvenient for cleaning out plied science and art, and exhibitions in conmay be a power to make two pounds of coal soul and body of stove beauty. While we are The fire of all stoves should be so placed with nection with it exist in 29 departments, for for one used. writing this, a parlor stove before us exposes a the instruction of poor but meritorious artireference to the door, that it can be cleaned most inordinate amount of carved work, out with a shovel. Now, no stove that we The Clock Lamp. sans in the provinces. The pupils of this A correspondent informs us that Robert school readily find employment on leaving it, which the designer no doubt thought would are acquainted with is thus conveniently conand 500 of them are known to be holding immortalize his name among the craft, or structed. A common stove, after being kin-Wieks, formerly of Williams burgh, now of this city, invented a Clock Lamp seven years make his fortune. If he had left off all his dled, when it fails to ignite the coal, is very posts of importance in various parts of the ago, which was like that recently patented in world. flowers and devoted his attention to the form troublesome to clean out and re-charge again. No country in the world has progressed so of the stove, he would have done more for his The cylinder stove has no convenience in ar- England by E. Whele.

ranging for kindling with wood and charcoal. We are speaking of coal stoves, those made for burning wood are convenient enough in this respect.

For cleaning out the oven-the low oven of a stove-it would be very easy to cast the back plate with an opening to be covered with a slide plate running in between side grooves like the lid of a box, this plate could be removed, and at any moment a small hoe might be introduced without any trouble to draw out the dust and soot, and thus keep the flues always clean. The patents for stoves are very numerous, but the right kind of stove has yet to be invented.

### Paine's Patent for Ventilating Cars.

A correspondent enquires of us if it is true that H. M. Paine's patent for railroad cars has been overthrown by H. B. Goodyear, the assignee of E. Hamilton, on a case brought before the present Commissioner of Patents."

We would state for the benefit of our correspondent, and perhaps many others, that H. B. Goodyear has published advertisements setting forth that, in the case of an "appeal" or matter of "interference" between Henry M. Paine and H. B. Goodyear, assignee of E. Hamilton, priority of invention was decided in favor of Hamilton as the inventor. H. B. Goodyear gives information to all the railroad companies (and especially the "New York Car Ventilating Company,") who have derived licences from Paine, that unless settlement is made within a reasonable time they will be sued for violation of the patent.

On December 18th, 1852, the Commissoner, of Patents, S. H. Hodges, Esq., decided that E. Hamilton was the first inventor of the improvement for ventilating railroad cars, by the arrangement of vertical blinds or shutters adjusted to act as deflecting panes.

This decision may not be final. An appeal can be carried to the Assistant Judge of the District of Columbia, and from him to the District Court of the United States here (N.

Y.) There is something about the business which we have not yet been able to dig out. H. M. Paine received a patent on the 6th of January 1852, the decision of the Commissioner of Patents cannot overturn that patent. A Judical Court has the power to declare it void and of none effect, and no other. What may come out of this case we do not know; the Commissioner of Patents made the decision upon the evidence presented to him, but that is all, it does not settle the mat-

Since we penned the article last week about

## Mechanics and Industrial Education. A convention was recently held in the city of Albany for the purpose of forwarding measures to the establishment and endowment of a college in this State, where young men will receive a profound education, and be taught practical mechanics. An association for this purpose, of which D. C. McCullum Esq., ar-

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chitect, an excellent man, is President, has been in existence for some time. The objects of the association are good ; we like them, and we hope to see them carried out fully and fairly by the contributions of the mechanics of the State of New York, independent of all political patronage. At the said convention, W. Deering, of Albany, stated that the operatives belonging to the manufacturing establishment to which he belonged, had set in operation a plan for raising funds to establish the People's College. The plan is for each operative to pay in six cents per week as an endowment fund. This is commencing the work in the only rational and proper manner to ensure success. If all our mechanics throughout the State would go into this scheme heart and hand for one year, they would raise a handsome fund indeed. There are no less than 200,000 mechanics in this State, and if each one could pay six cents per week into this fund, it would amount to \$12,-000 per week, or \$624,000 in a year. If onehalf of this number would thus contribute (a number which we think are able to contri bute), they would in one year establish the strongest college in this State. But will they do it ? that is the question. This project originated with the "Mechanics' Mutual Protection," an order which at one time promised to to be exceedingly useful and beneficial to manufacturers and mechanics. Its objects were to cultivate a good feeling between them, and to advance knowledge and skill in the arts. Many of the best mechanics in this State joined it, and hailed its rise as the dawning of a brighter day. It prospered for a few years, and has still a weak existence. It might have been prosperous and strong now had not some political enthusiasts endeavored to make it subservient to party purposes. It has done some good however, and it may rise again, and become wise and beneficial.

With respect to Industrial Colleges, some denser whereby they might be fed over and ter by any means. the condenser; W is a cock to open or close foreign countries are far in advance ot us, but communication with the vaporization chamover again with pure fresh water, is just what not so in Britain, for there are no such institu-British Patents for Colonies. is required for them. ber; S S are flanges to support the apparatus tions in that kingdom. On the continent of We are well aware that many surface conand bolt it on a suitable bed-plate; X X are Patents for the Colonies of Britain, we have Europe, however, they have been in existence side flanges which perform the office of bradensers have been tried and laid aside, owing for a long period, and have always been adreceived a letter from a correspondent, who ces; P is the bottom plate. All the outside to the unequal expansion and contraction or vancing in usefulness. In many of the Gerstates that the British Government has no the metals of which they were composed .parts are of cast-iron, and are made strong man States, institutions for industrial instrucright nor business to grant patents for Colo-On our advertising page will be found the adtion are in a highly efficient state. The puand durable. Water gives off some vapor, at nies, which have obtained Legislatorial authoa lower temperature than 212° as can be novertisement of Cobb, Mason, & Hill, of North pils reared in them are in constant demand. rity; "consequently," he says, "all the mo-Point Foundry and Machine Works, Jersey ticed in any boiler or during solar influence. A and are esteemed above all others. In the ney that has been received for such purposes, small apparatus of this kind, used perhaps once City, who have used the condenser for more Trade Schools and Polytechnic Institutions by said Government, was obtained under false or twice on a voyage across the Atlantic, it is than a year,, and who will warrant them of Germany, it is estimated that 13,000 men pretences." This is strong language. He albelieved will be sufficient to make up any against fracture by the expansion and contracannually receive a technical and scientific so asserts that "an American can import a slight loss of condensed steam, to be used tion of metal. training; and in schools attended by the patented article into Canada, in defiance of all working classes during their leisure hours, upthe patents there which are granted only to

nects the exhaust pipe of the steam engine with the condenser. The vessel being filled with salt water, the steam of the exhaust passes up into the pipes, C C, figure 2, from the pipe, K, which is open inside to allow this. Two of the tubes are represented in full. Allowing the salt water to be cold, when the steam is first let in, condensation of the steam will take place for a short time, but it will flow onwards to the condenser. When the salt water is heated to steam heat. moderate evaporation will take place, and the vapor will pass up and then down the pipe, V, into

washed out, when saturated, by the pipe, Y.

This apparatus is placed nearer to the boiler

than the heater, represented on the page re-

ferred to above. K K is the pipe which con-

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