# Scientific anmexicay 

NEW-YORK, OCTOBER 4, 1851.

A New Eetence.
In this age of new ideas and new developement, no subject is of equal importance to that of sanatory reform-the health of the people. What signifies prosperity in business to the merchant who languishes in sickness; or what pleasure can be derived from all the luxuries and abundance that can be obtained in this world, if disease sits brooding at the fountain of public health? The sanatory condition of the people is a new science, because it takes cognizance of the durability of general life, and examines into those causes which shorten or prolong it. When thousands suffer from the fever, it examines into the causes of the plague (for plague it is), and seeks out the best means to remove them. If a disease like the cholera suddenly strikes down multitudes in our midst, it investigates the causes and endeavors to provide a remedy. It is the same with all other diseases-nothing escapes its searching scrutiny, for it includes not only medical, but reliny, for it includes not only medical, but reli-
gious, social, and political considerations; the gious, social, and political considerations; the
field is of boundless range-it encircles the field is of boundless range-it encircles the
whole human race, the earth, the air, the waters, the sky. Its first process is the collection of knowledge, next, the arrangement of facts, and then the best means of applying those facts to eff ect the desired object, namely, the prevention and alleviation of disease. Thus the decay of vegetable matter, filth, and bad ventilation are known to generate, fevers. Statistics of health are very useful, for by them we can form a good idea of the sanatory condition oif cities, villages, \&c. Thus, in cities in the same latitude, we find the average duration of life to be twenty-five in one;
 years-hence we conclude that the seats be
some powerful local evil causes in operation which thus shorten life in the one place by ten years less than it is in the other. As it is with different cities and localities, so it is with individuals; here we find two men working at the same bench, and each furnished with equal physical constitutions, yet the one is always in the enjoyment of exuberant health, while the other is frequently confined to his bed, unable to follow his occupation. There can be no doubt, in our opinion, but more than one half of our diseases are manufactured, and while this is the case, we hold ourselves responsible, and every man is responsible according to his influence, for those evils. It is, therefore, our duty to speak out and labor for the removal of them. A few years ago the ship fever carried off hundreds in this city; then came the cholera with its frightful bill of mortality; and at present there is not a single week passes away but what it will be found that some peculiar disease has carried off more victims in the city than any other: yea, perhaps a greater number than all the rest put togetier. When such a fact presents itself we should mark it well, for there must be some important cause at the bottom of it. At present we do not mean to speak of the causes-the specific evils, nor the remedies; we merely wish to direct the attention of every person to the importance of this new science for every person who has eyes to see, ears to hear, and common sense to appreciate, can, by observation and reflection, know a great dea aboutit, and, whatis more to the purpose, be a
counsellor in the good work, for this science links both the moral and the physical sciences together.

Patent Office Report for $1850 . \ldots$ No. 3.
Examiner Fitzgerald's Report.-Fiv hundred and twenty-two applications were re ferred to Mr. Fitzgerald last year, for which the small number of $22 j$ patents were granted -a great many more rejections than were made by Examiner Page : the number of remade by Examiner Page : the number of re-
jections stated were 406 , but this includes all rejections; the reason of this is, that a very rejections; the reason of this is, that a very
great nnmber have been dissatisfied with Mr. great nnmber have been dissatisfied with Mr.
Fitzgerald's first decision, and have therefore appealed for a cond: Mr. Fitegerald fe peet liarly unfortunate in this and his re port is made in a very complaining spirit. Speaking of the present system of examina tions, he says-
system of examinations, applications for pa-
tents were never numerous. Although patents were granted to all whoapplied forthem, yet, owing to a want of revision by men ofartistic knowledge and experience, they were found to be so imperfect, and so large a proportion of them were granted for things that
were old, that they afforded very little security. No one feared to infringe a patent, as he was almost sure to be able to defeat it, for insufficiency of description, a defective laim, or for covering what could be shown to be old. The maxim was, that any patentee could be defeated who dared to commence a suit, and the most valuable invention seldom afforded any remuneration to the inventor. Patents
were not only defective, but their reputation was bad, and the govermment did little else for the inventor than keep its promiseto the ear."
He says the old system was abandoned in He says the old system was abandoned in
1836, and the new superior system, under the 1836, and the new superior system, under the
supervision of men having artistic knowledge, went into effect, and "it was found that the infringement of a patent, which had been perpetrated without fear and with impunity, had become a dangerous experiment." The new system of examinations is good, we find no rault with it, if conducted in the right spirit, by just Examiners, but it happens strangely that more patent litigation has resulted in connection with patents which he has passed,
than those of any other Examiner. More trouble in every way has resulted from his examinations, and to prove this we have but to refer to the numberless suits about Planing Machines. He should not have taken so much credit to himself, but, like Atlas, he bears the credit to himself, but, like Atlas, he bears the whole Patent Office on his shoulders. His Report takes cognisance of all the past, and pre-
sent operations of the Patent Office. The Commissioner must have had a very insignifcan view of his own place and office, to have allowed some parts of this Report to appear appears to be a cypher-Exantommissioner, the head of the Department.
Twenty-four patents were granted for mills, thirteen of which were for grinding and crush-ing,-one of which was for an improved way of steaming grain before grinding, as it passes from the hopper-a bad plan, as we have heard many millers say. Seven or eight patents were granted for cast-iron car wheels; six patents were granted for pumps, one of which was illustrated and described on page 12 of our fourth volume ; sixty patents were granted for improvements in working on timber, many of which, Mr. Fitzgerald suggests, have been got up from bad motives. Perhaps they have, but it appears to us, that he looks upon almost every applicant for a patent as a rogue or a fool -a bad disposition truly. Fourteen patents were granted for machinery to plane boards and shingles, every one of which machines, we believe, has been sued on the improved
principle of Mr. Fitzgerald's examination for principle of Mr. Fitzgerald's examination for
inf ringement of another old patent. This Reinf ringement of another old patent. This Re-
port takes the ground, that an improved system of granting patents commenced in 1836, by which they at once became more valuablethan they were before, but knowing that there are just as many law suits as ever, he gets over the difficulty, by saying the "patents are granted for whatever is novel,"* and insinuates tha these novel granted patents are obtained for
bad purposes: it is really shameful ; but if pabad purposes: it is really shameful; but if pa-
tents are more valuable from the superior examination of such men as Mr. Fitzgerald, how did it happen that two patents were as good as declared void on the 11 th of last month before Judges Grier and Kane, in Philadelphia? As we said before, we do not find fault with an examination to make a patent valuable, but it is our opinion that as much injusti e as jus tice-as much evil as good, is committed by the conduct of the Patent Office: it has the power of doing much good and much evil.

A disposition has been manifested on the part of the Patent Office, especially under its present management, to destroy the business of ragular and respectable Patent Agents. No ane, we presume, is sa grean tas not to under siond the nipdetentis section of the Informe tion Cirount, isomed from the Pabertotice,
or fail to discover the real and concoaled or fail to discover the real and concoaled
purpose for which it is intended, viz., to get possession of the inventor's funds, and rejee
than simply references, to which he has no means of access; while, on the other hand, agents, qualified for the proper discharge of their profession, can readily refer to the casea named by the Commissioner, in his letter o rejection, and expose the falsity of his posi noying to the Examiner, and hence the clause in the "Information" against agents. Any one on a moment's reflection, can see the shallowness of the pretext; and we believe that those who undertake their own cases will, in ninety nine cases in a hundred, express the regrettha they had not employed an agent to execute their drawings and specifications. It is unreasonable to suppose that the Examiners in the Patent Office would choose a set of imperfect drawings, a cloudy and indefinite specification, simply because they were prepared by the inventor, or what is generally worse by a lawyer who has no pretentions to science and refuses all responsibility. Depend upon it, inventors, there is little real candor in such professions, and to prove this we have only to state that the moment an Examiner retires from the office, he sets himself up as conspicuous as possible, in the Patent Agency business. We see from this that there is apparenty a selfish current ruming through the whole of this Report, and we are sorry to see it. From our experience, and rom our acquaintance with inventors, we believe that not one in a hundred applies for a patent who is not honestly sincere about the originality of his invention and his claims to the improvement. We have calculated that about three apply to us to act as agentsin procuring patents, for one that we take in hand to do the business for. If we believe no patent can be granted, we say so at once ; but it is sometimes very difficult to know what to say or what to do. Theaction of the Patent Office is so eccentric : sometimes like that of an inebriate and sometimes like that of a sober man, that we find it very
should hoke to give, was there a different spirit existing from that exhibited in this Report,
uniformly displayed in the Patent Office

## Inventions.

The following ideas are selected from the Buffalo Pathfinder. The first paragraph is so true th
stood it.
"There is nothing which contributes so much to the permanent prosperity of a nation as its inventive talent. It is what has contributed more to the wealth, commercial importance and national prosperity of England than any other cause, and is at this time doing as much and perhaps more for our own republic. We are behind no other people in mechanical ingenuity and genius, and this cause is surely, though perhaps silently and imperceptibly working out for us the first position among the nations of the earth
Perhaps nothing does more to foster our mechanical interests than the circulation of good mechanical papers; and we know of no publication which is doing more in this respect than the Scientific American, published by Munn \& Co. ; it is a valuable repertery of inventions and a record of the progress of scientific discovery, and having a large amount of interesting and valuable reading matter.
The weekly report of patents is alone worth the price of the paper."
To our cotemporaries generally, we return our sincere thanks for the flattering notices extended to the Scientific American. If space would permit, we should present the names of such of our friends as have spoken indulgently of our humble abilities.

## Gwynne's Centrifugal Pump

A correspondent of the New York Daily Times informs his countrymen that the test trial between the pumps of Appold and Gwynne, which took place in England not long ince, resulted much infavor of the former, notwithstanding the eulogies heaped upon it by the eccentric Editor of the Tribune, and the reported sale of the Scotch patent for $\$ 50,000$. The inventor is said to be a member of the Static Pressure Engine Co., and, probably, for want of proper information about centrifugal force, has suffered a defeat he might otherwise have avoided. See Scientific American, Vol | have avoided. See Scientific American, 341 , for a correct expose of the centri |
| :--- |

fugal force theory: as a consolation to our countrymen, we would state that there are plenty of pumps here which never could have been beaten, four to one; no, not one to one. In the estimation of scientific men we shall not suffer in reputation by the trial.

Webster's Unabridged Qnarto Dictionary. It gives us pleasure to hear of the increasing popularity of the Great Dictionary of the English Language ; and as its price has been redued to six dollars by the enterprising publishers, Messrs. G. \& C. Merriam, Springfield, Mass., it is our opinion that the time is at hand when it will be used (for it is the recognized one) in all parts of the world as the exclusive standard of the English language; we say this because we know that no person that wi hes or requires a new dictionary, would ever think of purchasing any other. The last Legislative Assembly of thisState (New York) exhibited its wisdom and high sense of the value of this Dictionary, by passing a law to supply all the Common Schools with it. The State of Massachusetts has also furnished about three thousand copies of it to hef Common Schools. The most eminent men in our country have expressed their decided opinion respecting its superiority. Daniel Webster said that he "never felt armed and equipped without Dr. Webster at command." The London Times has said that it was the best Dictionary of our language ; Dick, the Christian Philosopher, says, "it is the most complete Dictionary of the English language ever published." Judge Spencer, of this State (and we have not a better umpire) says, "it is relied on in our Courts of Justice, Legislative bodies, and in public discussions, as conclusive." It is indeed the standard work of our language, and as such it is relied on in the Court, the Camp, the College, the Bench, the Printing Office, and the School Room.
We have nothing to add to what others have so well said respecting the general merits of
pecting its peculiar scientific qualities. We have a number of dictionaries relating to Science and Art, and we have glossaries of scientific terms, and those relating to the operations and particular parts of machinery, \&c., and we must pay this compliment to Webster-" it contains scientific terms not to be found in any other work," and we have often been surprised to find that it contained full and clear definitions of many technical phrases, which we thought had never been heard outside of the workshop. It is a real Encyclopedia of Science, for it not only gives the definitions of scientific terms, but describes the nature of many chemical actions and the operations of many machines. In its unabridged present form, it is complete, and no man pretending to scientific knowledge can be without it: we mean the Unabridged Dictionary, the present new edition, which contains all the results of Dr. Webster's fortyseven years' labor and revising, and the labors, for a number of years, of Prof. Goodrich and several other gentlemen distinguished in science and literature. In Chemistry, Architecture, Geology, Engineering, Mechanics, \&c., $\& c$., it is full and accurate, and is not only es sential to the student in science, but the most erudite philosopher. We are proud of this work as an American production; it is certainly gratifying to know and feel that England looks to America as having now produced the standard work of the English language.
Our New Type.

We have been congratulated in a number of instances, upon the beauty of the type, and the general typographical appearance of our new volume. The type was manufactured by Mr . H. H. Green, whose foundry and establishment constitutes our next door neighbors. The type manufactured by Mr. Green are not surpassed by any establishment in our coonsurpa
try.

Phillips' Fire Annflilator.
What has become of this "Annibilator?" does not seem tohave done any good as ret in this city, for the fires are as pumerous as ever and just as destructive. Bring on your Annihilators.' gentlemen, at some of our fres, and let us see what the y can do. It will be found that wherever the Scientific Ameriblindfolded.

$T \mathcal{T}$ Reported expressly for the Scientific American, from the Patent Office Records. Patentees will fand it for their interest to have their inventions illustrated in the Scientific American, as it has by far
a larger circulation than any other journal of its
class in America, and is the only source to which the class in America, and is the only source to which the public are accustomed to refer for the latest improvements. No charge is made except for the execution of the engraving
ter publication.

## LIST OF PATENT CLAIMS

## Issued from the United States Patent Oflce

 for the webe ending september $23,1851$.To g. b. Clarke, of Leonardsville, n. y., for imorement in Churns.
First, I claim the employment of a revolving vessel containing the cream or milk, with or without cleats, constructed either plain or with pins, or having any other suitable internal projections, and operating in combination with a toothed or plain stationary cross-bar, removable or permanently secured to the fixed axles, and situated in the space forming the axles, and situated in the space forming the
upper half of the vessel, at any desired disupper half of the vessel, at any
tance from the centre thereof.
Second, I also claim the employment of Second, I also claim the employment of a
tempering cylinder and tubes, in combination tempering cylinder and tubes, in combination
with the revolving vessel and cross-bar, for with the revolving vessel and cross-bar, for
cooling or warming, and agitating the milk, by its precipitation thereon, as caused by the circular motion conveyed to the milk, and interruption or arresting effect produced, substantially as described.
To O. W. Urimes, of Puducai, $\mathrm{K}_{5}$., for improvements inm
I claim the method described, or any other means essentially the eame, of thrnwing tho
teeth in and out of the cylinder or drum at teeth in and out of the cylinder or drum at pleasure, whiss ingth of teeth to the hemp, or
greater or less length greater or less length of teeth to the hemp, or
of drawing them entirely within the cylinder, of drawing them entirely within the cylinder,
in case the hemp should become entangled and in case the hemp should become
likely to break up the machine.
Second, I claim, in combination with the bar holding the teeth, the spiral spring for allowing said bar to yield to knots or other obstructions, and for drawing back into proper position the said bar, after it is released from said obstruction.
Third, I claim, in combination with the bar and teeth; arranged as described, the adjustable guides for setting the teeth at such angle as will give them more or less hold upon the hemp, as described.
To L. D. Grosvenor, of South Groton, Mass, for imTo L.
provem
Corn.
I cla

I claim the endless bearded belt, constructed of any proper material, and having lugs or spikes, as described, in combination with the comb rollers set diagonally upon the frame, in the manner and for the purposes substantially as set forth.
To Wm. Merrell,
in Lath Machines.
in Lath Machines.
I do not claim mounting a rotary cutter on the same spindle of the rotary saw, as described; nor do I claim the returning table, consisting of a series of rollers arranged and operated in the manner described; but what I claim is the director and carrying belt, in combination with the apparatusfor registering, substantially such as described, for delivering bundles ready counted.
I also claim the rounded surface of the receiving table, in conjunction with the bentform of the strip, which effects, in the simplest manner, the delivery on the returning rollers of the unsawed slab, to the attendant, for another cut. To Patrick O'Neil, of Brooklyn, N. Y,
ment in Easy Chairs for Invalids, etc.
I claim the manner of combini I claim the manner of combining the jointed
chair with the jointed ottomans, whereby the whole is made to subserve the several purposes described.
I also claim fumishing the back of the chair with an additional joint, whereby the back of the chair is rendered susceptible of such adjustment as to form a support to the spine the occupant of the chair, as described.

I also claim the employment of the triple jointed hinges, in combination with the spiral springs, for securing the flexible bolster by which it is steadied and retained in its proper which it is steadied and retained in its proper
position, when expanded and contracted, as set positio
forth.
To A. J. Sexton, of Brooklyn, N. Y., and Wm. En nis, of New York, N. Y., for improvement in Ventilating Ships.
We do not claim to have invented either the caboose, water back, ventiducts, or valves, although we do not know of the several parts referred to having heen used for the purpose described; but what we claim as our joint invention is the combination and application of the caboose, water back, ventiducts, and valves, in connection with our water surface and the cowl and vane, for the introduction of pure air and the expelling of impure air, as described and for the purpose mentioned.
To T. J.Sloan, of New York. N. Y., for improve-
meutin machinery for threading Wood Screws and eutin machinery for threading Wood Screws and eed Apparatus thercor
I claim the employment of two cams in combination, substantially as described, for the pur pose of operating the fingers, which supply and present the blanks to the griping jaws, as described.
I also claim the employment of one cutter to form the thread on the conical point, when combined and operating simultaneously with a second cutter, for forming the thread on the main part of the shank, substantially as described and for the end specified, provided the motion of one of the cutters is extended into the track of the other, to insure the making of the thread on the conical point, a continuation of the thread on the main part of the shank.
To Wm. Mt. Storm, of New York, N. Y., for Engine, in which compressed air or other gas, heated and expanded by admixture therewith of a heated fluid, is used as a Motive Agent.
I claim actuating an engine, such as is now usually driven by steam, or of any convenient form, by means of a measured or detailed quantity of air, previously compressed, and having naa 1ts te increased and or detailed quantity of a medium, or, in other or detailed quantity of a medium, or, in other
words of a heated liquid, as water or a vapor, words of a heated liquid, as water or a vapor,
(simple or super-heated), as steam; said jetting of the steam into the air (or vice versa the air into the steam, which I claim as equivalent,) and their commixture being effected in a vessel or vessels, disconnected previous to and during that process, or at least prior to its consummation, from the reservoir or main source of compressed air, and from that of the steam, \&c., and each separate and distinct charge or detailed quantity of compressed air, heated by its corresponding charge or detailed quantity of steam being allowed to act upon the piston or its equivalent, prior to the admission or introduction of another charge of air and steam into the vessel or vessels in which their commixture is effected, the whole operation being carried on by means of mechanism, in substance such as represented, or any more fitting mechanism that shall effect the same in the manner here claimed.
To Isaac Banister. of Newark, N. J., for improve ment in Shoe Latchets.
I claim confining a shoe to the foot by means of a flexible latch secured to one portion of the said shoe, acting in conjanction with a socket or eyelet, and a catch or hook secured to other parts of the shoe, and operating substantially in the manner set forth.
To Asa Willard, of Boston, Mass., forimprovement the Churn and Butter Worker.
I claim the combination of one or more fluted rollers with one or more floats, to operate so as not only to aid in the process of separating the butter from the cream, but afterwards, and when the motion of the dasher is reversed, to throw into ridges the butter spread on the bot tom of the floats.
And I claim the improvement of giving a longitudinal hollow, or curve, to the extemal surface of each float, for the purpose of gathering the spread butter towards its middle, and preventing the butter from adhering to the ends or the reservoir, as specified.
To L. H. Browne, of Beston, Mass., for improvement
I claim, first, arranging the sounding board in a springing form, and supporting its back on a straining lever, made to bear with more or
less force against p
Second I claim the combination subsiding iron frame, having a rectangular socket on its front rail, with the long main iron frame, having a wooden block on the under side of its front rail, which fits and is glued into the aforesaid socket, as set forth.
Third, I claim casting the bridge of the long ron frame, with curved brackets, so as to have it raised above the level of the bottom of the front rail of said frame, and permit the strings to be strained, or strung under the same, as explained.
Fourth, I claim easing the escapement of the
fly of the jack from under the centre block of the hammer, by means of a spring combined with said block and the stem of the hammer, as stated.
Fifth, I claim arranging the back catch on a lever having a fulcrum in the jack, and arranged so as to cause the catch to follow the hammer in a stroke of the same, and cause it to repeat the stroke or note, if desired, when the fly of the jack fails to operate, so as to effect said second stroke.
Sixth, I claim using a piece of gutta percha on the top of the hammer head, in lieu of some of the layers of leather, in the manner and for the purpose specified.
To Benj Chambers, of Washington, D C., for im-
provement in I claim so making and
I claim so making and operating the detruding rods, or followers, of a letter stamp, so as to act wholly within the body of the stamp block, whereby I avoid cutting away tho handle, and the weakening which would be caused thereby.
I also claim making the detruding rod, wing, and thumb slide, in a single piece, whereby I greatly economize the labor of making this part of the stamp, as set forth.
To J. H. Manny, of Wadam's Grove, Ill., for improvement in attaching cutter bars to Harvesters. I claim hanging tha such manner that neither extremity of the cutsuch manner that neither extremity of the cut-
ser shall be liable to sag below the other exser shall be hable to
tremity, as set forth.
To Jacob Worms, of Paris, France, (assignor to Jacob Phalen, of New York, N. Y. Patented in France, (in !part), May 19, 1849, and (in part) Sept. 27, 1849, I will here obsing
cylinders have been already used for thanken cylinders have been already used for the printing of woven fabrics; but these are very ex-
pensive to manufacture compared with the cypensive to manufacture compared with the cy-
linders' prepared as I have described. I wish it also to be understood that, in the apparatus described, I do not confine myself to the exact details set forth, for these must necessarily vary with the size of the matter to be printed, or with the greater or less rapidity with which the movements are to be executed.
It must also be understood that I do not claim, individually or separately, any of the parts of the apparatus or machinery; but I claim, first, in combination with the ink troughs and printing cylinder, the arrangementt of the cam cylinders, reciprocating cylinders, (two) operated by levers; and two cylinders for receiving, carrying and distributing the ink from the said trough to the said cylinders.
Second, I claim, in combination with the printing cylinders, two other cylinders, provided with a spring knife or saw, operated by cams, and also with ribs, or projections, and grooves, for the purpose of nearly severing the filaments of the paper, as it passes through between said rollers, and for the purpose also of creasing the paper for the more easily folding of it.
Third, I claim, in combination with the partially cutting and creasing cylinders, the different sized cylinders, C D, geared together for the purpose of tearing apart the partially cut paper-the cylinders, $\mathbf{C}$, holding, and the increased motion of the cylinders, D , at their periphery (they being the larger), drawing the paper sufficiently to separate it.
Fourth, I claim, in combination with the selinders, the tunnel for guiding, and the wheel divided into a suitable number of compartments for receiving the sheets as they are delivertd
from the machine, the whole being constructed from the machine, the whole being constructed set forth.
To Washburn Race, of Seneca Falls, N. Y., for Biind or Shutter Fastener
I claim the con
hooks with the inner plate, the same being arranged as set forth, in such manner that the fast hook forms the pivot for the free one, and the two are connected to the inner plate in such a manner, that the movement, breakage, such a manner, that the movement, breakage,
or removal of the free hook, does not affect the security of the fastening, while, at the same time, the two hooks are secured to the inner plate by the fastening of the latter to the shutter. [See engraving of this invention in No. 49, Vol. 6, page

## To S. P. Rugg

 I claim securing the plate of a hand stamp to the shank or handle, by means of a universal ball and socket, or other joint, so as to allow the stamp to make a fair impression, at whatever angle it may strike the material to be stamped, as set forth.Steamboat ©uestion..--Pacific and Atlantic 子3 Tides
Messrs. Eitors.-Respecting the "Steamboat Question," on page 389 of the last volume of the Scientific American, suppose the current equal to 5 miles per hour, and let us suppose, also, that a steamboat, or other body, placed in the current would acquire a velocity equal to that of the current, (not greater, as contended for in the "Floating Raft" question) ; such a body; although moving at the rate offive miles per hour, would be actually at rest with respect to the current. Suppose again that this steamboat will run fifteen miles per hour in still water, and be set in motion against the curent, will not her distance be lessened by exactly the velocity of the current, that is to say, her speed will equal 10 miles per hour, and conversely, if running with the current, it will equal 20 miles per hour:- thic.appears to me to be self-evident, and that the effect of the current on the paddles is nothing.
Your "Conversations on Mechanics" leads Your "Conversations on Mechanics" leads
me $\mathrm{t}+\mathrm{tho}$ quoxy, whether there is any positive evidence of what has been so often asserted, that the Pacific is higher than the Atlantic. Were we to draw inferences from existing facts, it would seem that the reverse should be the case, and that the Gulf should be higher than the Pacific, else why this out-pouring of the waters between Florida and Cuba, which had been piled up in the Gulf by the equatorial trade winds. G. L. Anderson.
[We did not state what quantity of effect the current would have, in the article referred to by Mr. Anderson, for that we do not know-experiment alone can determine itfor in hydrodynamics there is still much to learn. If the paddles did not act on the water and pass through it to propel the boat, then the effect of the current would be nothing, as stated; but if the current does affect the velocity of the boat, it must affect all that belongs to it, which passes through the water; but the effect of a moderate current upon paddles having a high velocity, must be very small indeed.
Our opinion about the difference of height in the waters of the Pacific and the Atlantic, coincides with that of our correspondent. It was held at one time to be an established fact, owing to a bad survey of a French engineer, that the waters of the Red Sea were thirty feet above those of the Mediterranean: this was found, last year, to be a great error, by a new survey of the English engineers, when laying out the new railroad route for the East India Mail. It is our opinion that the same error will be found to have been committed in respect to the waters of the Atlantic and Pacific: we should like, at least, to have every doubt removed, and clear evidence of the fact or falsehood set before the public. Would it not be well to have a new survey made?

## Milton's Daughters.

The Chatham Society has published papers, showing that Milton's eldest daughter, Anne, could not write; that his second daughter, Mary, could spell ; and that his third daughter, Deboinh, was much in the same condition, though it isas been so often said that she was her father's amanuensis, and that she read to him in, Hebrew, Greek, Latin, and Italian, without understanding a word of any one of the languages.

The Fair of the American Institute opened Castle Garden, this city, on the 1st inst.

