Scientific American

NEW YORK, JUNE 22, 1850.

Patent Office, and Reform of the Patent Laws.

In the article published by us last week, taken from the Washington Union, strong objec. tions are made to the Bill now before the Senate for reforming the Patent Laws, especially that clause which provides, "that all rules, orders and by-laws of the Patent Office, be entered in a book for that purpose, which shall be kept open for inspection to all persons transacting business at the office, and such rules, &c. shall be general in their application in all cases." In advancing reasons against such amendment to the Patent Laws, it is stated that the Office has no by-laws; that its rules, orders and modes of doing business, are printed and public; that nothing has been done secretly, but openly, honestly and impartially, and "the rules never changed for favoriteism." It also repels the charge of partiality and corruption, which the late Commissioner was con_ stantly beset with. All this may be true; but surely this affords no good reason against the above amendment to the Patent Laws. To object to such an amendment, rather affords grounds for suspicion. We believe that our public men are too often accused of bribery and we cannot lay our finger upon any act of the Patent Office which could be classed under such a charge. But for all this, we do not believe that it is perfect-rather the reverse. It needs reforming in some shape sadly, and we hope Congress will call the attention of the Committee on Patents to the subject, empow ering the members to examine witnesses in relation to the matter. There is abundant evidence to prove the Patent Office guilty of injustice, recklessness and partiality. The business of the Patent Office, as it respects decisions upon applications, is conducted upon a system of erratics. Applications are granted or rejected, according to the state of mind the examiners may be in. There are four chief examiners in the Patent Office, each a feudal baron on his own domain. Their decisions, therefore, sometimes resemble boys shooting marbles along the four sides of a rectangle. One has acquired for himself the glorious title of "the guillotine." He knows every thing that was, is, and is not, and never will be. It certainly looks singular to see men making decisions, which resemble a dance of crooked sticks Decisions are sometimes made in the Patent Office. which amount in substance to boxing the bones and throwing the compass overboard.

It is time that there were some uniform rules and regulations for all cases in the Office. One a pplicant will be rejected this week upon some shallow plea, when lo and behold another will receive a patent next week for something which has far less claims to patent protection. The Office is great upon granting patents for flytraps, and such portentous engines of war, even to the placing of a looking-glass in one claim on our list this week. We suppose that this one for variation must be a wonderful rat trap. Some applicants are exceedingly fortunate beside others. A few years ago, an application was made for a new manufacture of hats, a peculiar kind of willow bark being used for that purpose, and a kind which never had been used to our knowledge, and we know all the outs and ins about the business. It was rejected, upon the plea that various kinds of bark had been used for that purpose, and it did money and other \$25 by the Patent Office.

The decisions of the Patent Office are some. times so unjust, that poor inventors are deprived of protection for good improvements, and thus the Patent Office becomes the biggest pirate of inventions in the Union. A working journeyman tinsmith in this city invented a new chimney cap three years ago, and applied for a patent. It was rejected upon the plea that there were plenty like it in New York, and it was described in "Reid on Ventilation." No chimney like it, either in appearance or quality, had ever been seen in New York, and the one in the work referred to, was as like it as cheese is to chalk. The Patent Office was then reasoned with on the subject, and in a letter sent to Washington, there was an affidavit in respect to its qualities, from a gentleman in this city, Mr. P. Naylor, who knows more about such things, practically, than the whole corps in the Office. But no matter, the Patent Office informed the inventor, (Mr. S. Bull,) that they did not take such evidence to be their guide, but if he would come on and show the superiority of his cap, they might grant him a patent. At that time Mr. Bull had not the funds to go to such an expense, and for want of protection to his invention, the Patent Office has allowed him to be plundered of his just rights.

We like impartiality, system and fair dealing in every respect. We don't like to see one applicant refused a patent upon grounds which are held to be no objection to the granting of a patent to another. We care not who the applicant is, let him be Jew or Gentile, when he have bought this invention, cannot be produapplies for a patent, let his application be treated without moodiness and with impartiality. The Patent Office was mighty patriotic in the case of Mr. Bain, but recently, as if to make amends for past sins, it has granted a patent to a foreigner for a peculiar curve of a bucket for a propeller wheel, and rejected the application of an American citizen for a bucket of a peculiar form, which has been tested satisfactorily on a large steamboat. He is soon to receive his patent from England-that protection from a foreign government, which has as yet been denied at home.

It is a well known fact, that many applications for patents are rejected at first, and then after a long correspondence, or a visit of some well paid person to the Patent Office, who knows how to manage the case, or else a visit at great expense by the inventor, (but the latter is not generally successful,) a patent is granted, perhaps with the alteration of one word to suit the whim of an examiner, and thus the rejected applicant at last gets a patent, and a patent that will be supported at law too. We dare say a hundred such cases happen every year.

The present Commissioner thinks the whole fee of rejected applicants should be retained. instead of \$20 being returned as is now the case. Why? because the correspondence is generally so lengthy and expensive to the Patent Office. But whose fault is this? That of the Office. If the reasons of the rejection are good, then the controversy will be short. We never trouble the Office with a scrap, if the reasons of rejection are good, and we never will do it. There is one reform which we would like to see carried out in respect to the Patent Office; and that is, "The first letter of rejection to be special, and to contain the heads of defence. in order that the applicant may examine and appeal to the Judge, paying down \$25 on the notice of his appeal, and if defeated to lose it; but if successful, to be paid back his

Paine's Electric Light.

Scientific American.

There is no subject I believe which has been brought so prominently before the public, within the past year, and with so little satisfaction, as the Electric Light of Mr. Paine. He has written a number of letters on the subject him. self, which have appeared in the Scientific American, and during the past few months I have read various long communications by others, in different papers. The discovery of Mr. Paine is stated to be an entirely new property belonging to magnetism, or mechanical electricity, (the public not being fully enlightened on this point, which is kept secret,) whereby water is resolved entirely into oxygen, or entirely into hydrogen, according as it is combined with positive or negative electricity; and furthermore he asserts that he has discovered electricity to be a ponderous substance. Speaking for myself, and I have no doubt others have the same feelings, I have been greatly disappointed in respect to this alleged discovery. Expecting every week to hear something of its principle, as Mr. Paine promised in 1848, I week, that persons in New York and Boston had bought Mr. Paine's interest in the discoabout the sale of inventions, and will venture to assert, that the names of the persons said to ced. Another account which I have read, states that Sir George Cayley, a very scientific he was charmed with the discovery, and would consider it a favor to introduce it to the British Scientific Association. Another account states that Sir C. D. Archibald, a member of the Royal Society and an officer of the royal house. hold, has been on a visit to Worcester to see the Light, and has been perfectly astonished ; and he too solicits from Mr. Paine the high honor of introducing the Light to the British public. Behind and beyond these noble names and numerous paragraphs, there is something perfectly inexplicable. What can it be?

Having conducted many experiments in electricity, and having heard numberless lectures on the subject, by some of the most eminent men, I will present a few facts in connexion with this subject, which, although not new to some, will be new to many.

The Hydro-electric Light of Mr. Paine is hydrogen, and these two gases when burned on a piece of calcium, produce what has long been known as the Drummond Light. Water was decomposed by electricity many years ago by Dr. Wallaston, and by the voltaic battery by Sir Humphrey Davy. The decomposition of the water is not therefore new. Mr. Paine has asserted that all the water in a vessel can be resolved into hydrogen. If this is true, then he can resolve oxygen into water. I should like to see it done, and until I see it fairly done, will not believe it. The ponderability, as Mr. term compression. Beccaria succeeded some that it will take some time, as the developyears since in fracturing to atoms a ball of ment appears to be slow work.-ED. glass, two inches in diameter, by means of an

electric spark passing through a drop of water

dawned upon the world. It is my opinion, however, that he has made some great mistake-overlooked something in conducting his experiments.

Although Mr. Paine has made some extraordinary statements himself, it may be that he is indebted more to the imprudence of his friends, like Mr. Porter, for highly colored descriptions of his discovery. So far as the opinion of men of science is concerned, they cannot be satisfied with the mere exhibition of the hvdro light-that is nothing to them; it is the new manner of producing it. Until this is done by Mr. Paine, in a public lecture, or description, the reported discovery will be viewed as something suspicious. Every good discovery should meet with its reward, and this one will, if it is worthy. R.,

[In an article which formed a leader in the Tribune of Thursday, 13th, the whole subject is reviewed, and Prof. Henry's objections to the philosophy of Mr. Paine's discovery, attempted to be overthrown. In it is stated, to the objection of Prof. Penry, that "Mr. Paine have in vain looked for the development of does not separate the gases of water, hut prowhat every one would have rejoiced to know, duces them cotemporaneously from two sepaas a grand addition to scientific discovery. I rate bodies of water"-thus intimating that read in a Boston paper, the "Transcript," last the effect produced, produces a far greater amount of power, than it required to produce the effect-the secondary being greater than very for \$5,000,000, half a million down. I the first cause. Instead of this obviating Prof. for one do not believe this. I know something Henry's objection, it is no answer to it at all; for the water must change its condition, and what is that but the same thing as saying, a separation of the gases. In a change of condition, there is always a change of property, like ice absorbing coloric and becoming water, and English gentleman, wrote to Mr. Paine, saying by increasing the amount, becoming steam; and to do this artificially, requires expense or equivalents of force to produce like equivalents. This is the philosophy of that part of the subject. In the same article we are told that the water is decomposed by ordinary magnets set in motion by clockwork, except that into the helices he has introduced a substance never before employed for that purpose, and this he keeps secret." Are we to understand by this, thet he employs "electro magnets"? They are not common magnets. It is also stated, that Mr. Paine is going to introduce his apparatus into the Astor House, arrangements now being made for that purpose, the pipes and burners now used being perfectly adapted to burn Mr. Paine's carbonized hydrogen.

What is the meaning of carbonized hydrogen? How is Mr. Paine to get his carbonic gas out of his water? We are also told. that stated to be formed of water decomposed by the experiment is to be made to satisfy a numelectricity. Water is composed of oxygen and ber of highly respectable, responsible parties, "who propose to buy the patent right in case of success." Mr. Paine has no patent, and he has asserted that he would have none, the glory of the discovery was all he wanted. But we believe he is now right to get as much for it as possible. A man should be paid well for every good discovery. "The value of the patent," says the Tribune, (what "patent?") " is fixed at ten millions of dollars for the Unied States, and the parties spoken of are to put up \$100,000 as a guarantee for the purchase of it, if Mr. Paine will light the Astor House Paine would call it, but rather what I term for six nights at the nominal expense of five the mechanical power of electricity, has been cents for a thousand feet of gas. Mr. Pedrick long known; and Mr. Paine, although he thinks of Boston, is the gentleman who has made the he did, did not make the first discovery of bargain for himself and Mr. Paine." We shall breaking a vessel, by what he would perhaps see how all this will end: but we are afraid

> Steamship Viceroy. The Stea mship Viceroy from Galway, Ire-

	not constitute the <i>legal</i> subject of a patent.	This is the rule working both ways, and is	contained in a small cavity within the centre	land arrived at this port last Saturday. She
	The assignee of the inventor solicited the ad-	nothing more than justice. Another reform is	of the ball. Stones, wood, and other brittle	way to be the first of an Irish Line but al
	vice of Mr. Elliot in Washington, who advised	the return of models to those who are rejected.	imperfect conductors, are rent in pieces by an	though she made a good nassage she failed to
	him not to prosecute his claims, and we being	Some models cost four and five hundred dol-	electric discharge between wires placed within	compate with the Cuperd's In all likelihood
	an acquaintance of some twelve years standing	lars, and it is rank injustice to retain them af-	them.	the project will be shandoned for some time
	with Mr. Hamilton, we told him to take Mr.	ter refusing patents.	The lighting of streets and buildings by vol-	at least
	Elliot's advice, as being in our judgment the	We have pointed out some of the impartiali.	taic electricity, has occupied the minds of many	
	most prudent, to follow. The matter was drop-	ties of the Patent Office, and could produce	eminent men during the past thirty years, but	Steamship Atlantic.
	ped then, and he went to Charleston, S. C.	plenty more facts to back up all we have set	in an economical point of view, every attempt	This fine American Mail Steamship, sailed
	Next summer we met him in New York, when	forth. Does this not show that something	has failed; although, for experimental purpo-	for Livepool on last Saturday at 12 M. She
	he pulled a Scientific American out of his pock-	ought to be done with this peculiar Depart-	ses, as the splendid voltaic light of Archereau	unloaded, loaded and was off in five days
	et, and pointing with his finger to a claim	ment of the government? The principles of our	in Paris is an evidence, no artificial light can	She will no doubt make a good passage.
	granted for "a new manufacture of nails made	governmentarecorrect and sound, but it is in the	exceed it in splendor. Mr. Paine states that	•
m	of muntz metal, (brass,) exclaimed, "So much	Departments, where there are so many depar-	he can produce his brilliant hydro-electric light	Persons writing to this office for information,
1	for the impartiality of our Patent Office." We	tures from positive good to comparative	at little or no expense at all. If this is per-	and charging us with the postage without en-
<u>L</u>	could pile up a number of such cases.	worse.	fectly correct, I may say that better times have	closing a fee, cannot receive any attention.
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Scientific American.



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Our weekly List of Patents and Designs con tains every new Patent, Re-issue and Design emana tingfrom the Department, and is prepared officially expressly for the Scientific American, and for no other paper in the city, consequently other journals are obliged to wait the issue of the "Sci. Am." in order to profit by the expense to which we are subject, and of course must be one week behind. Those publishers who copy from this department in our columns, will, in justice to us, give proper credit for the same

LIST OF PATENT CLAIMS ISSUED FROM THE UNITED STATES PATENT OFFICE,

For the week ending June 11, 1850.

To Stephen H. Adams and John A. Wood, of Cohoes, N. Y., for improvement in Carding and Mixing Wool and Cotton

We claim the picking and carding of the wool and the cotton separate from each other, and the drawing them off together from the second carding machine, and then mixing their fibres with each other by means of the finishing or condensing card.

[This is a most puzzling claim, and one that will astonish some of our manufacturers.-ED.] To James Barnes, of Franklin, N. Y., for improve ment in connecting Whiffltrees with Carriages

I claim the stops or blocks, E E. cast upon or otherwise affixed to the box, a, and the stops or blocks, n n, cast upon or affixed to the followers, in such manner that when the two are joined by a central bolt passing through. they will interlock and form a stop coupling, secure from derangement from external causes the whole constructed substantially in the manner herein described.

To Ransom Cook, of Saratoga Springs, N. Y., for improvements in Hydraulie Apparatus for producing Blast.

I claim, first, the use and application of boxes, tubs or cavities, attached to wheels, disks or arms by movable joints or journals, in such a manner that they shall enter the wa ter with their open sides downwards, and when beneath the same shall empty or discharge the air which has been compressed within them by the water, into a receiver which is separate from such wheels and air boxes; all for the purpose of producing a blast of air to be used in heating, smelting, and other mechanical operations.

Second, I also claim for this purpose the disk, recess, or concavity of the wheel, so as to allow the receiver to project over the mouths of the air boxes to receive their compressed air.

Third, I also claim for the same purpose the cam, the cranks, I, and the cranks attached to the air boxes, together with the piece, on the open side of the boxes, the mouth, for discharging their compressed air and the blocks, for throwing forward the cranks.

[See engraving No 24 vol. 5, Sei. Am.]

(Assignors to R. E. Rabeau, of Philadelphia, Pa.,) forms

knife with fluted rollers; constructed and operting substantially in the manuer and for the rollers being fluted longitudinally and the other circumferentially, serve firmly to hold the

I claim the method herein described, of deto the outside of the vessel or by steam in- fast doing in almost every other department.made before the machine. The verdict was We shall note from time to time, the progress positing earth to form embankments, levees, troduced with in it substantially as herein set given for the plaintiff on last Thursday, the of the enterprise, and keep our readers duly forth. etc., and to fill up low situations, by means of 11th. Damages, \$10. Geo. Gifford for plainadvised of it." filtering dams, or their equivalents, and a trough DESIGNS. tiff; A. L. Jordan for defendant. [We take the above from our cotempoor conduit conveying earth and water from a To A. Paul, of South New Market, N. H., for design Index to Patents. higher level, substantially as herein specified. for stoves rary, the Lancaster (Pa.) Gazette. It will I claim the combination of the bull's eye Mr. Davis, of Mississippi, submitted to the show that our intrepid friend John Wise is To W. Groat, of Troy, N. Y., for improvementin in alto relievo (having radial notches as debound to show the world something new in baladjusting packing for oil boxes of axles, &c. following resolution to the Senate last week. scribed) and of alternating concave and con-I claim the employment of an adjustable looning. If any man can make the balloon go, and it was adopted : vex, radial ribs and surrounding mouldings, and go succesfully, he is the one. We would Resolved, That the Committee on Patents band surrounding the oil packing of railroad car or other journals, so as to admit of adjuston the several doors and pannels of the front like to hear from him in relation to his negotiand the Patent Offiice be instructed to inquire ment from the outside of the box, in adjusting and side plates, and the row of pointed levers, ation about Mr. Paine's apparatus. into the propriety of causing to be prepared the packing around the journal, and render the and of alternate notches and ridges, &c., on and published and analytical index of the pa-Petition for the Extension of a Patent. the moulding of the hearth plate, all as herein box oil tight, in the manner and for the purtents which have been granted by the United pose, substantially the same as herein descriabove set forth and represented in the draw-Edward M. Chaffee, of New Brunswick, New States, to promote the progress of science and ings. bed and represented. Jersey, has applied for an extension of his pa- the useful arts.

To G. Morgan, Calhoun, of Tenn., for improveients in cars for plank roads, wooden rails, &

I do not claim an endless chain of wheels working against a stationary rail to support a carriage; nor do I claim laying down supports for said wheels, these having before been done; but what I do claim, is the combination of a chain of rollers with broad bearing surfaces running around a stationary rail or track on the carriage with an independant chain, which forms a track for said rollers to travel over when resting on the ground, and which passes around outside of said chain of rollers.

I also claim the mode of constructing said track chain, by lapping the links thereof, so that the rollers shall have a constant bearing on the three plates which form two succeeding links, and break joint with each other, as clearly represented.

To C. H. Parker, of New Geneva, Pa., for improvement in bedstead fastenings.

I claim the device for securing the ends of the rails to the posts, consisting of a headed tenon on the rail and two wedged shaped, and dovetailed boxes in the post, the latter held in place by the pendent arms and tie-rods by which the mattress is stretched, substantially as herein set forth.

To W. F. Ressegine, of Cincinnati, Ohio, for imrovement in spring mattresses.

I claim the construction of the jointed spring mattress, substantially as set forth in the specification.

To E. S. Snyder, of Charlestown, Va., for improveent in threshing machines.

I claim first, surrounding the twisted wings with an imperforated case and placing the same inside the threshing cylinder—the whole revolving together in the manner and for the purpose set forth.

Second, constructing the concave of adjustive star or other shaped teeth attached to rods fastened to the frame, substantially as described and set forth in the specification.

DISCLAIMER .- I am aware that such teeth have been used in the throat of feeding apparatus of a corn sheller to aid in feeding, and thereof I only claim them when used for the rubbing surface of the concave.

Third, placing the curved spring rack between the concave of adjustive teeth, and the vibrating separator, in the manner and for the purpose described.

To J. Stevens, of Middletown, Md., for arrangemen of mirrors in traps.

I claim the arrangement of the mirrors, substantially in the manner and for the purpose set forth.

To J. A. Woodbury, of Boston, Mass., for improve nent in planes for tonguing and grooving boards, &c. I claim the combination of a gouge or goug-

es, (for removing the bulk or greater portion of a shaving in forming tongues or grooves in boards or planks) with smoothing tools having a chisel edge, a cutting and side lip on either, or both sides thereof, (for smoothing sides and bottom of the grooves, and the edges about the tongues, as set forth ;) said gouges being set in front of said smoothing tools, and the

signor to J. Campbell, of New York, N. Y.,) for im. rags for manufacturing paper. Patented Sept. 21st, 1840. Re-issued June 11, 1850.

chine for pressing hay. The defence was, an bed process of preparing materials for making cost about ten thousand dollars. Such an one. abandonment of the invention to the public. pulp in the manufacure of paper by digesting this company propose ultimately constructing, leather in any position. The press considered an infringement, was them in a turning vessel with an alkaline soin order that our country may take the lead To Duff Green, of Dalton, Ga., for method of formmade nearly two years before the patent was lution or other liquid, the heat being applied in Æronautic Science and adventure, as she is ing embankments, levees, &c. granted; but application for the patent was

Great Æronautic Enterprise.

"It is with feelings of pride and heartfelt pleasure we are enable to state that two balloons, one fifty feet in its greatest diameter. and from thirty to forty in its transverse; and the other of a smaller size, are being constructed in our city under the immediate personal supervision of the distinguished Æronaut, John Wise. The unparalleled success which has hitherto attended Wise's Æronautic experiments, has induced him to engage in this, his greatest, with the confident hope that it will enable him to prove not only the practicability and safety of Ærial Navigation, but also the ability to steer and propel balloons in any desired direction.

The two balloons will contain over 1500 yards of silk, and the capacity of the largest will be sufficient to enable Mr. Wise to take with him six passengers at least, in his ærial voyages, as it will contain 30,000 cubic feet of gas, with an ascensive power of 70 lbs. to the 1,000 feet. By this means parties of pleasure and invalids, will have an opportunity of testing the pure air of the upper regions, while to the man of science it will open a boundless field, hitherto wholly inaccessible save to a favored few. In order that the safety of an ascension may be fully apparent, the Balloon will be permitted to rise several hundred, or over a thousand feet, and be made to descend at the pleasure of the voyagers by means of a cord and windlass. Where it is desired, Mr. Wise will take excursions of 500 or 1,000 miles, without any of the appliances for descent at pleasure but those usually employed by Æronauts-the valve, &c.

By these lengthly excursions, say from Cincinnati or St. Louis to the Atlantic Seaboard, he wishes to demonstrate the entire feasibility of crossing the Atlantic Ocean, and circumnavigating the entire Globe. Nor is this all, Mr. Wise has always contended for the practicability of steering and propelling balloons in any direction. The smaller of the two balloons now constructing is designed to aid him in proving the truthfulness of this theory .--Our slight knowledge of Æronautics will not enable us to explain by what means he proposes effecting this, but the very confident manner in which he asserts his ability to do it satisfies us that it can be done. In his recently published, and highly interesting work, he has most clearely demonstrated the possibility of "varying at will, from a straight course, thirty or forty degrees from the latitude of departure." Should he succeed, as we have no doubt he will, what mighty results must follow his success.

Mr. Wise is now negotiating with Mr. Paine, of Worcester, for the use of one of his "Magnetic Decomposers," by which water is rapidly converted into its gaseous elements. As the ascensive power of the gas thus obtained is much greater than that hitherto used in ballooning, the operation will be greately facilitated by the use of Mr. P.'s apparatus.

The enterprise has been undertaken by five but much more highly finished, and with dead To F. Durand & O. Pecqueur, of Paris, France, whole being arranged, and operating substanscientific gentlemen of our city, including Mr. escapements, going a week with a very small tially, as herein above set forth. Wise. Too much praise cannot be awarded weight." for machine for cutting leather into hollow-war RE-ISSUES. them for the noble stand they have take on Patent Case--Hay Press. To G. Spafford, of Windham, Conn., deceased, (asthe side of science. The cost of the two bal-We claim the combination of the vibrating Before Judge Nelson in the United States loons now constructing will exceed \$3,000, provement in the machine for boiling and washing Circuit Court, New York .- Nichs. J. Lampman and we have been informed by Mr. W., that against V. P. Adams, for an alleged infringeone sufficiently large and safe to cross the purpose above fully set forth, one of which ment of a patent for an improvement on a ma-What is claimed, is the herein before descriocean and circumnavigate the Globe would

tent for an improvement in the manufacture of India rubber. The petition will be heard on the 5th day of next August, at the Patent Office. The patent expires on the 31st August.

English Estimate of American Clocks. The following extract from a late work on clock and watch making, by Edmund Beckett Denison, will exhibit the effect in England of one branch of American manufactures :

"The bracket clocks with pendulums from 10 to 18 inches long, are now almost the only English clocks (except regulators) that find any sale. These, when well made with a fusee, and not exposed to a temperature that freezes the oil, (which is much above the freezing point of water,) will go nearly as well as a coarsely made long clock of the old fashioned kind. Sometimes they require a good deal of trouble to set them so as to beat equally; for if they are not set, they are very likely to stop, as they have generally, and the foreign ones always, have very little force to spare.

Even they are getting fast superseded by the latter class of American clocks, and French ornamental clocks, neither of which, however, will last nearly so long. With the latter it is no doubt quite hopeless for us to compete, as, besides the great cheapness of their labor. the French appear to possess what I may call a smaller eye and finger than English workmen, and they are able to perform dilicate and orna. mental work with much greater quickness and facility. And as those who chiefly regard the beauty of the figure of their clocks seldom care much about their entrails, they consider it of no consequence that a good English clock is better for the natural object of a clock than a foreign one. Whether it would be possible to manufacture clocks on a large scale as cheap as the American ones, I am not able judge. I have been told that, but for the cases it would. But unless the English clockmakers take some steps towards either altering the kind of clocks that they make, or can find out some cheaper mode of making them, there is no doubt that there will soon be no house clocks, except regulators, made in this country. The oldfashioned, full length house clock is now nearly exploded, on account of its ugliness, size, and dearness, as compared with the American clocks, which go sufficiently well for ordinary purchasers.

No one who has seen the inside of an American clock can help seeing that ours are unnecessarily heavy, and waste a great deal of the force in merely ovecoming their inertia and friction. An American clock goes a week with both the weight and the fall for it. not half of what they are in the common English clocks; and as a large pendulum requires no more force to keep it going than a small one. it is evident that about \mathfrak{F} the moving power in our clocks is wasted. (The commendation of the American clocks cannot be extended to the fixing of their pendulums, which is bad as possible.) I have also seen some very neat French clocks, about the same size as the American,