Scientific American.

modating by these arrangements.

actuating the punching awl, can be graduated out the difference between them. to give a light or heavy blow, as may be de- The theory of "fits," if we may call a theory pletes nearly 30 pairs in an hour. There are not tell us why this is so. five claims in the patent, embracing different tioned above, when the patent was granted.

This machine is on exhibition at the Crystal Palace; and how it performs, and the quality of work done by it, can be seen there at any time. It attracts a great deal of attention from its ingenuity and novelty.

For more information, communications may be addressed to Mr. Gallahue, New York City, or to Messrs. Kramer & Rhahm, Pittsburg, Pa.

The Imponderable Agents---No. 2.

Against the theory of emanations, as taught by Newton, there is one objection, which, though it has been often urged, has never, and can never be answered. Newton taught that light consisted of particles of the matter of the luminous body; if so, the sun must be decreasing in | larity of common light, it may not be amiss now mass, slowly indeed, yet nevertheless constantly, and this process must in time result in utter extinction. It is vain to say that this process is slight; according to the laws of gravitation there must be an equilibrium between the centripetal forces; and the moment any appreciable quantity of the sun's mass has passed away, the centripetal force would be weakened, and the planets would no longer revolve in the same or-

Priestly, casting the concentrated light of the sun upon a delicate balance, attempted to weigh it,-he even fancied he had succeeded, and from the data thus obtained, he proceeded to compute the total diminution of the sun's bulk for a period of six thousand years. But we are satisfied that our intelligent readers will, with us, reject his experiment in toto, as the smallest particle of dust floating in the air would weigh more than the pretended weight of the sun's rays, as indicated by his balance. And from the most carefully conducted experiments, as well as from theoretical considerations, it is and is of itself, we think, sufficient to overthrow it. Nor would this waste of matter be meaning names. as slight as is pretended. When we consider sun's rays is, at each instant of time, supplied oil and candles would explode. with light from one half the luminous points on the sun's surface; inconceivably minute though the particles of light must be, yet their almost infinite number-a number so great as to mock the powers of mathematical calculation-must. if the Newtonian theory were true, rapidly dionly other—that of undulations.

to be composed of seven different colors, yet he ticle. does not attempt to explain in what the differ-

is a counterpoise to the pressure guide roller, f_1 , the reflection of an unequal proportion of the ways without it. to make it sensitive. As the spindle of this colored rays of white light, but he does not tell ! roller is secured to the cross plate, which is selus what becomes of the remainder. Brewster cured to the sliding gate, u u, and as the bear-attempts to help him out of this difficulty by ings of the driving shaft, P, are upon this gate, supposing an absorption of the remaining rays, consequently this shaft is elevated and depressed | but this is only giving a name to the difficulty, according to the inequalities or form of the sole without explaining it, and besides, what would of the shoe, over which the roller, f, passes. be the consequence when the opaque body had The whole of the pegging and punching opera- absorbed to saturation? Sir David has himself tions, therefore, are adjustable and self-accom- shown it unnecessary to suppose the existence about half the cost of winter sperm oil, or gas. otherwise. We admit that many of the camof more than three colored rays in the spectrum, The spirits of turpentine thus used, is to this phene explosions have been caused by careless-The spring, f' (there is one on each side) for but he does not, any more than Newton, point

sired. This machine weighs only about 150 which is merely giving a partial expression to a lbs. altogether; it occupies a space of only 2 recognized fact, is very incomplete. We confeet in length and height, and 15 inches in sider Newton justifiable in supposing that the breadth. It can be worked by hand or by a particles of light are, when in one portion of belt driven by steam, horse or water power. It their path, more easily reflected, and when in pegs round one shoe in a minute; and com- another, more easily transmitted, but he does

The failure of the advocates of the theory of points; they can be found in Vol. 8 "Scientific | emanations to keep pace with modern discove-American," in our regular list, of the date men- | ries in polarized light, is also one cause of the disrepute with which this theory has of late been regarded. The investigations of Brewster, of Biot, of Malus, of Fresnel, and a host of others, have given rise to the discovery of a class of phenomena which, from their variance cessary new hypotheses, or at least new applications of the existing ones, and the majority of these observers, being advocates of the undulatory hypothesis, their explanations, naturally enough, coincided with their previous views; hence it is now generally supposed that this theory is the only one that will satisfactorily explain the phenomena in question.

As we shall hereafter have occasion to differ from the prevalent opinions concerning the poto remark that we cannot discover the evidence on which is founded the assumption of Brewster, that common light is compose I of light nolarized in two planes situated at right angles to each other. We contend that the fact of the existence of two polarized rays situated in opposite planes, after double refraction. is no evidence that they were thus polarized previous to double refraction. The same force which refracted may, have polarized the rays. Nor do the other modes of polarization afford any proof of the controverted fact, for a similar reason.

Intimately connected with investigations concerning the nature of L ight, are the kindred subjects of Electricity, Heat, Affinity, &c., and our next article will be devoted to the consideration of these subjects.

Camphene, Burning Fluids, &c.

The following is an abstract of an article plosion of a 'camphene lamp.' which appeared in the "Journal of Commerce," by Alex. Jones, of this city:—

"We doubt whether there are any other highly improbable that the rays of light are in compositions so extensively used in domestic the smallest degree ponderable. We regard economy, regarding which such gross igno- ing the fluid in contact with fire or light of some this argument as an unanswerable one against rance prevails, as the articles at the head of kind. the Newtonian system,—it cannot be evaded, this communication. The ignorance has been worse confounded by the introduction of un-

It should be remembered that not all inflamthat every point in space within reach of the mable substances are explosive; otherwise fish common rosin, left in it by previous distillation, boon to the human family.

We know the whole history of the materials produced by the pine tree, and used for pur- the combustion of spirits of turpentine, I hold to poses of illumination. And, strange enough, be highly conducive to health, especially in common parlance has applied the word 'camphene' to the whole of them. This name arose perienced a benefit from it in my own case, as follows:-The idea of using the common having suffered severely at times from bronchiminish the sun's mass. We are not surprised spirits of turpentine for illumination, had been that from these considerations so many philoso- long entertained; but its great excess of carbon | a residence in the pine forests of the South as The umbrella was, by some contrivance, opened phers of eminence have of late been disposed rendered it unfit for use, as its combustion pro- | a remedy for pulmonary diseases." to reject the Newtonian theory and adopt the duced dense volumes of smoke. Attempts were made to neutralize this carbon, by the ad- a great deal in the "Scientific American," and Nor is the theory of colors, as explained by dition of other substances. It was found that many communications from others have also ap-Newton, by any means satisfactory. At the if small portions of gum camphor were dissolved peared on this subject. We dislike to harp uptime he began his explorations, he entered an in the spirits of turpentine, it changed it to a on one string too often, nevertheless, the subject untrodden field, and as a first discoverer, he did clear fluid, which burnt with a bright flame, of artificial illumination is so important to every more to unfold its beauties than ever has been or without smoke, and was no more explosive man, woman, and child in our country, that can be done by any other; yet the light of modern than common fish oil. This prepared spirits of every person should read all the articles which for Liverpool on the 29th ult, returned to port science has rendered improbable many of his de- turpentine was 'camphene,' and was introduced treat upon it. What a vast amount is to repair a boiler, through which a hole had ductions. He supposes a beam of white light to the public under that name, as a patented ar- expended for illumination in one year. We

wick at the point of combustion, became so all situations, and in all conditions. particle of camphor in its composition.

ded.

years past, and prefer it to all others.

prohibit from use by Legislative enactment. nons coal.

nation, called by the ignorant, indifferently, burning fluid,' or 'camphene.' It was found that, if common high proof whisky, or 'alcohol,' was mixed with common spirits of turpentine. it, like camphor, neutralized the excessive carin an ordinary lamp, like the common oil lamp, with ordinary wick tubes.

This fluid is explosive, or about so much so as alcohol, and requires care in filling lamps.— It, also, is a cheap and beautiful light. Its component parts, alcohol and spirits of turpentine being cheap and cleanly, it forms an exceedingly bright and steady light, better for the eyes than either gas, or oil light. In using the lamps with this mixture, they should always be filled ever, through gross carelessness, an explosion happens, it is published to the world as the ex-

We have never heard of an accident of the kind, that was not the result of gross carelessness. They nearly always happen by attempting to fill the lamp while burning, or by bring-

The name of 'pine oil' is a humbug. Spirits of turpentine is nothing but oils from pines, (Oleum Terebintha.) The nick name 'pine oil,' only means spirits of turpentine obtained from and then burnt alone, or mixed with alcohol.

The slight effluvia of turpentine, given off by bronchitis, and in affections of the lungs. I ex-Indeed, physicians sometimes recommend

REMARKS ON THE ABOVE.—We have said can form some idea of this when we take in It was soon found, however, that the use of to consideration that every house, store, street, ence of these rays consists; he regards the co-camphor rendered it too expensive, and the many churches, lecture rooms, factories, &c., dear wine and dear raisins next year.

at y' to the plate r. This lever, with its weight, lors of opaque bodies to be consequent upon use of spirits of turpentine was tried in various in our land, are lighted up for some hours every night. On land and sea, on railroads and Finally a lamp was invented, which, by means steamboats, in cellar, and cabin, in castle and of a metallic button in the centre of a circular cottage, the lamp is trimmed to cheer man in

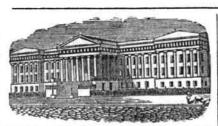
> much heated, aided by a good draft through an Camphene and alcohol give a more beautiful improved glass chimney, as to consume all the light than oil; it is cleaner, and we would precarbon of the spirits of turpentine, producing a fer to use it always, and commend its use in fasteady and brilliant light, far surpassing that af- milies where there are no children, and where forded by gas, or any other substance, and at the females are careful and intelligent—not day called camphene, although it has not one ness, that just as many by ignorance of the nature of the fluid. Camphene is the proper che-By retail, it costs only on an average about 60, mical name of the oil of turpentine. It is comcents per gallon, while winter strained sperm | posed of C10 H8-carbon and hydrogen. It is oil to produce the same light, costs about the excess of carbon which makes it give off 137 cents per gallon by retail. This plain spi- | a dense smoke when burned in a common lamp; rits of turpentine (miscalled camphene) is whol- | It did not, so far as we know, obtain this name ly inexplosive, and we defy any party to give a in the way mentioned above, but because camsingle solitary instance of its ever having explo- phor can be obtained from it. The only difference between it and and camphor is this .-I have used it in my house for four or five Camphor is composed of C10, H8, O—one of oxygen. From the camphor tree a volatile oil We have no hesitation in saying that by the is obtained, which is isomeric with camphene, use of proper lamps, the streets of cities, and and this by oxydation forms camphor and hy-Government light houses, could be illuminated drate of camphene. Camphor mixed with turby the use of common pure spirits of turpentine, | pentine will not prevent it (though we have not at about one half the cost of any other material tried the experiment) from burning with a whatever, and with a brilliancy far surpassing dense smoke in a common lamp; we thus judge with previously recognized laws, rendered ne- all others in proportion to size of burners. Spi- from the composition of the substances. Neithrits of turpentine is as much a national product | er camphene, turpentine, nor the burning fluid as whale oil; and more so than coal gas, distill- mentioned by Mr. Jones are explosive as fluids. ed, as is usual, from Liverpool coal, and Go-Brandy can be poured upon a lamp without vernment should institute experiments as to its causing an explosion. All substances commonapplicability for light house purposes. Yet this 1 ly called explosive fluids must become vaporized simple, cheap, and safe light, it is proposed to before an explosion can take place. The vapor of camphene becomes explosive when it is mix-This is on a par with the ancient legislation in ed with 028, (oxygen); this amount satu-England, which prohibited the use of bitumi- rates it to ignite instantaneously and forms carbonic acid and water. The alcohol and cam-There is another composition used for illumi-phene mixture is more volatile than camphene, as it contains more hydrogen (C4, H50+H0.) All these fluids are perfectly safe to burn, if the vapor can be prevented from escaping. By experiments which were made by the Franklin Institute, the turpentine and alcohol fluid proved bon, and brought it into a state fit to be burned cheaper than either sperm, lard, or gas, for illumination. The suggestion by Mr. Jones of our government making experiments with camphene and alcohol fluids is a good one; it is worthy of attention. Newell's Safety Lamp, illustrated in our last volume, is the best we have seen for burning this fluid; it is constructed on the principle of Davy's Safety Lamp, and can be trusted. In our list of claims last week, one was for a can to hold the fluid, which we believe is a good one. The inventor is Dr. Nichols, of in the day time, and set aside for use. When- Haverhill, Mass. It would certainly be wrong to enact a law to prohibit the use of burning fluids, but at the same time it would not be amiss to make a law to prevent accidents arising from the use of them, so as to punish the culpable and reckless. These fluids can never be used for street illumination, they are neither so convenient nor safe as coal gas sent through tubes; in fact, gas is the grandest and best of all plans for artificial illnmination, and we hope the day is not far distant when nothing else will be used in every family in all the cities and villages in our land. Every improvement which tends to cheapen gas light is an incalculable

> > Mr. Goddard has arrived at the acme of aronautic achievement, in Paris. He has come down in a parachute on horseback! Two years ago, to go up on horseback was a marvel. The parachute was immense, and the cords, extending from its edges to the frame work that sustained the horse, were a hundred feet long before the cord of connection with the balloon was cut, in order to avoid, under the peculiar circumstances of the descent, the rapid fall that ensues till the silk unfurls. The aeronaut above (his brother) let him off at the height of a mile; the descent was easy and gentle.

The steamship "Golden Age," from this city been drilled,-strange this.

The raisin crop in Spain has been a poor one;

Scientific American.



[Reported Officially for the Scientific American.] LIST OF PATENT CLAIMS

Issued from the United States Patent Office

FOR THE WEEK ENDING SEPTEMBER 25, 1853.

LOOMS FOR WEAVING HAIR CLOTH-By Halvor Halver on, of Hartford, Conn.: I claim the combination of the LOOMS FOR WEAVING HAIR CHAIR COUNTY SON, of Hartford, Conn.: I claim the combination of the trough or troughs, one or two depressers, one or two sets of pincers applied to the shuttle and mechanism, for opening and closing the pincers, the whole being applied to one or both ends of the lay, and to the shuttle, and made to operate together, for the purpose of carrying hair or hairs or like matters, into the shed of warps, as specified.

as specified to claim the arrangement of each or both And, Ialso claim the arrangement of each or both thoughs, with respect to the depresser or depressers theren, and the shuttle boxes and the lay, the trough in such arrangement being made to extend from the depresser towards the middle of the lay, substantially, as specified.

SASH FASTENER--By Henry Hochstrasser, of Philadelphia, Pa.: I claim the self-acting catch, made and operating substantially as described.

COORING RANGES-By Nicholas Mason, of Roxbury,

CORING RANGES—By Nicholas Mason, of Roxbury, Mass. I am aware that hot air chambers have been applied to ranges for the purpose of heating meats, dishes, &c., and also, that hot water spaces have been applied to the sides of the grates instead of at the back. I, therefore, lay no claim to such devices.

But I claim the employment of two ovens in combination with the peculiar arrangement of the fuse around their top, bottom, back, and sides, by which I am enabled to heat five sides of either one or both of them at a time, as setforth.

MANUFACTURE OF SHEET IRON—By Henry McCarty, of Pittsburgh, Pa.: I do not claim the use of rollers generally, but I claim inparting to the surface of sheet iron, the peculiar mottled appearance of Russia sheet iron, by passing the sheet between a pair of planished or hammer dressed rollers, in the manner set forth.

bammer dressed rollers, in the manner set forth.

Cooking Stoves—By Jordan L. Mott, of New York
City: I do not claim as my invention any particular
mode of securing the top plate of the bottom flue to the
series of flue tubes; this may be done in various ways.
But I claim connecting the top plate of the bottom
flue with the lower part of the series of flue tubes, so
that in taking out the series of flue tubes, for cleaning
the said top plate of the flue below, it shall beremoved
at the same time, and thereby exposeto view the lower
flue space, greatly facilitating the operation of cleaning.
Second, I do not claim hanging the grate irrespective
of the combination, as my invention.

What I claim is the combination of a swinging grate,
as described, with the self-acting weighted latch, connected with the plate below the grate, as specified,
whereby the contents of the grate can be readily discharged, and the grate readjusted by a slight use of a
poker.

charged, and the grate readjusted by a slight use of a poker.

BATHI G TURS—By Jordan L. Mott, of New York City: I do not limit myself to any particular form for the projection e, or to its locality, nor to the forms of the channels therein, as these may be varied at pleasure, although I prefer to make the whole as described.

Nor do I wish to limit myself to the making of the two channels in one and the same projection, and located at different parts of the tub.

Nor, finally, do I wish to limit myself to the use of the channels, in combination, as the use of either one of them will greatly improve the bathing tub.

I do not claim broadly as of my invention the connection of the hot and cold water pipes of a bath tub, so as to discharge hot and cold water together, as this has before been done by a pipe or pipes, coupled with the bottom of the tub, and discharging upwards.

Nor, do I claim broadly, the use of an overflow pipe, for carriang off the water, and preventing the water in the tub from overflowing, as a separate device has before been used for this purpose, but when so used, it was so connected with the waste and supply pipes, as to necessitate the use of a valve within the waste pipe, with all its attendant disadvantages.

What I claim is, the before described mode of combining with a bathing tub, either one or both of the channel-ways substantially as described, and making when constructed, part of the tub, one of which channel-ways connect the overflow, and the waste or discharge holes with the waste pipe, and the other channel-way is adopted to the insertion of the bot and cold water pipes, and discharging the hot and cold water pipes, and discharging the hot and cold water pipes, and discharging the hot and cold water pipes, and the other channel-way is alopted to the insertion of the bot and cold water pipes, and the other channel position, substantially in the manner specified.

MAKING CHAINS—By Christian Sleppy, of Newport, Pa.:

MAKING CHAINS—By Christian Sleppy, of Newport, Pa.: I claim the forging and making chains out of a solid bar without the welding process: and which is done instantly, as the bar passes between four rollers, with dies on the edges of the same, moulding the links into form, and which may be done out of iron, brass, or any substance suitable to be used as a ch in, from the size of a cable to a watch guard.

A NEALING HOLLOW IRON WARE—By David Stuart, of Philadelphia, Pa.: I claim the process substantially as described; the same consisting in coating the articles in the manner set forth, with the same composition that will resist heat and exclude air from the surface, and heating the a ticles so coated in an oven about the length of time specified.

SMUT MACHINES—By Robert Waskey, of Mill Creek. Va.: I claim the construction of the diaphragm, the central part being solid, and that near the periphery made in several oblique vabular passages to check and throw back the kernels of grain, as represented.

SMUT MACHINES—By Wm, Zimmerman, of Quincy, Ill.: I claim the machinedescribed, for cleaning and scouring grain, hulling rice, pearling barley, hulling buckmeat, or otherwise operating upon grain, seed, etc. with a series of two or more stationary cones with one, two, or three or more revolving cones Dlaced and operated alternately between the stationary cones: the Insides or outsides of part, or both sides of part, or all the cones being furnished with rougheneds rfaces, of such a form or kind, as will perform the service required, substantially, as described.

STEAM FOR ACTUATING ENGINES-By Charles E. John and Samuel Wetherd, of Baltimore, Md. Patented in England, M y 25, 1855: We claim the combining steam or superheated or surcharged steam for actuating en-gines, when generated, the elasticity increased and operated as set forth.

PREPART G PARAFFING OIL—By Wm. Brown, of Glasgow, Scotland: I claim first, the use of superheated steam as indicated, for the purpose indicated. Second, I claim the mode of separating and purifying eupione lubricating oil and paraffine, obtained by previous process.

METHOD OF VENEZEING—By Caleb B. Burnap, (assignor to Lucius F. Robinson.) of Hartford, Conn.: I claim the method of pressing venezers on to the surface to which they are to be glued or comented by means of a fluid hot or cold, acting on an interposed flexible substance, such as an Indian rubber cloth or its equivalent, which will adaptitself to the s rface, substantially as described.

will adaptiteelf to the s rface, substantially as described.

Car Wheels—By Dāniel P. Fales, of West Poultney,
Vt.: I am aware that car wheels composed of two side
plates of different shape, cast in one piece with the huband rim in which the rear plate is made to combine the
inner end of the hub with the face plate, and with alternate portions of the inner edge of the rim, have been
made by Bristol and Jackson, and, therefore, I do not
claim to be the inventor of this description of car wheels.
But I claim by my improved car wheel, composed of
the face plate E, which curves first inwards and then
outwards, and expands into the rim, and the rear plate.

B, which by the series of curvs combines the inner end of the hub with the face plate, and with alternate portions of the inner edge of the rim, substantially as set forth.

RAIL ROAD SWITCHES—By James M. Dick, of Buffalo, N. Y.: I do not claim the levers, springs, bolts, or connecting rods. Neither & O I claim of itself the employment of a sliding bar connected to the switch.

But I claim the construction of the slide with the depending flanges or side plates, which enclose the slide and crosspiece upon which it works, and afford a certain and effective protection against gravel, dirt, snow, sleet, ice, and other foreign substances, which might otherwise enter between them, and derange the operation of the s witch.

SHIPS BLOCKS—By Charles H. Platt, of New York City: I do not claim the plates F. G. for the purpose of securing the cheeks the proper distance apart, for they have been previously used.

But I claim the employment or se of the rods E. passing through the cheeks in a direction traversely of their fibre for the purpose of preventing the splitting of the cheeks; said rods also securing the plates F G. to the cheeks, and forming a staple for the book as described.

I also claim the rods placed underneath the eards of the sheaft, for the purpose of preventing the wearing of the cheeks, and thereby forming durable bearings for the shaft, as set forth.

CENTRIFUGAL DRAINING MACHI ES-By Wm. Richard on, of New Orleans, La.: I claim the arrangement in son, of New Telans, La: I claim the arrangementhe tub, Y, of the induction tube, A, supply bulb, annular tube or ring, D, D, placed below the water exterior of the tub in combination with the ascent tubes, E and FF, and a second annular tube, G, had discharges, H H, for the purpose of self-priming, proing the machine from the resistance of water exterior, and giving steadiness to the ascending color of water discharged by the machine

CLAMP FOR LAYING FLOORS—By Stephen E. Parrish, of New York City: I claim the use of the brace having clawed ends for acting at opposite sides of a beam, in combination with a screw working at right angles to the same. substantially in principle of construction and operation, as set forth.

[For the Scientific American.] Patent Laws of New Brunswick.

[Synopsis of an Act of the Legislature of the Province of New Brunswick, passed in the Legislative Session of 1853, entitled "An Act to Regulate the Granting of Patents for Useful Inventions." By PETER STUBS, Barrister at Law, St. Johns, N. B.]

SEC. 1. The Lieutenant-Governor empowered to issue Letters Patent for a period not exceeding ten years, which are available to applicant and his representatives.

Sec. 2. Applicant to state, in his petition, 'that he has invented or discovered a new and useful art, machine, manufacture, or composition of matter; or a new and useful improvement in some art, machine, manufacture, or composition of matter, not known or used by others, before his discovery or invention thereof, and at the time of the application, not in is to lodge £20 in the Provincial Secretary's ofpublic or common use in this Province, to which petition an affidavit is annexed, setting forth that the same is just and true, to the best of applicant's knowledge and belief.

SEC. 3. With petition, a written description of the invention is to be given, signed by applicant and attested by two witnesses, setting forth the manner of making and using the invention, so as to enable any skilled person to make and use it; the principle of the invention is to be stated, and the several modes of applying it; a model is to accompany the application when necessary. Specimens of ingredients are to be forwarded, where the invention is a composition of matter, sufficient for the purpose of experiments.

Sec. 4. Applicant having obtained a patent for his discovery in another country, can obtain one here for the same, if it has not been previously introduced into the Province and in common use therein.

SEC. 5. Applicant for a patent dying before Letters are granted, his legal representatives are entitled to the same on petition.

SEC. 6. Letters Patent may issue to any assignee of a person entitled to a patent for any invention not previously patented, upon affidavit of assignor, that assignment is based on good consideration, and by assignor, as required by second section.

SEC. 7. Letters Patent may issue to the assignee of any person who has taken out Letters Patent for an invention in any other country. but not for an invention made abroad, for which no patent has been granted; Provided, the invention assigned has not been in common use in this Province, prior to the application for a patent: the assignee to file with his application that the patented invention has not been in common use here, and that he is assignee for a good

SEC. 8. Patents are assignable and fractional parts thereof, when granted here; and assignments are to be recorded in the Provincial Secretary's office, within three months of execution, being first duly proved on oath of subscribing witness.

SEC. 9. Persons pirating patents, to pay three times the amount of damage, which patentee or his representatives may have sustained, recoverable in the Supreme Court.

Sec. 10. Copies of, specifications, depositions, assignments, &c., filed with the Provincial Secretary, when authenticated by him, to be received as competent evidence in all Courts, where any matter concerning the patent comes in question.

SEC. 11. Any person desiring the same shall be entitled to such copies.

SEC. 12. When the Attorney General decides that an application for a patent interferes with another application then pending, or with an unexpired patent, the Provincial Secretary shall give notice of such decision to the several applicants, or patentees, and if any of them are dissatisfied with such decisien, he may appeal to the Lieutenant-Governor in Council.

SEC. 13. On such appeal the Lieutenant Governor in Council may appoint three disinterested persons as a board of examiners, one of whom, if practicable, to have knowledge and skill in the matter, to which the alleged invention applies. Examiners to be sworn before a Justice of the Peace, and to be furnished with the Attorney General's decision and ground thereof, and they are to give notice to the Attorney General and parties interested, of the time and place of their meeting.

Sec. 14. This Board has power to examine all parties under oath, which either of the Examiners can administer. The examiners or a majority of them, can reverse or affirm the Attorney General's decision. Before a board of examiners is appointed, the party applying for the same shall lodge £25 with the Provincial Secretary, for the purpose of paying reasonable expenses.

SEC. 15. Where the Attorney General entertains doubts as to an applicant's right to a patent, the Lieutenant-Governor may appoint a board of examiners, who shall have the same power as given to them in other cases. Before the board enter upon their duties, the applicant fice, for the purpose mentioned in last section.

SEC. 16. In case of appeal from the decision of the Attorney General, it is optional with the appellant to apply for a board of examiners or to appeal to a Judge of the Supreme Court. Appellant to a Judge to file the reasons of his appeal in the Secretary's office.

Sec. 17. 'The Judge shall determine the matter in a summary way, and the future proceedings of the Attorney General are to be regulated by the Judge's decision. The decision of the Judge not to preclude any person interested from the right of contesting the same in any Court where it may come in question. Appel lant to lodge £20 before appealing to a Judge, to defray expenses.

Sec. 18. Any person making a discovery or invention, and being desirous of further time to mature the same, may file a caveat, setting forth its design and purpose, &c., and such caveat shall be in force for a year, and placed in the confidential archives of the Provincial Secretary. If application for apparently the same thing is made, such application to be deposited in like manner, and notice given to the person who filed the caveat, who, within three months, is to file his specification and drawings. If the Attorney General is of opinion that the specifications interfere with each ether, the like proceedings are to take place by appeal, as before described. The decision of the examiners, however, may be contested in a Court of Justice.

[Remainder next week.]

METEORS.-We have received a letter from David F. Pattee, of South Dedham, Mass., wherein he states that at about the same hour, on the same night, in the month of September, the assignment duly proved, and an affidavit last year, when a bright meteor was seen in Texsetting forth the date of the patent abroad, and | as, he saw it at North Enfield, N. H. It was as large in appearance as the full moon, and for a moment made night appear like day. It swept across the heavens from west to east with great velocity. In less than three seconds from the time it was first seen by him, it burst without the least noise into splendid streams of many colors, and disappeared. He has been often importuned to send us an account of this phenomenon, but has not done so until now. It is indeed a remarkable thing that he should see this meteor at the same time it was seen in Texas, as described in the Scientific American, page 18

To Prevent Incrustations in Boilers.

At Ems, in Germany, it was recently found that no incrustation was formed in the boiler of a steam engine, which had been in use for two years, and although the water with which it was supplied contained 21.899 grains of solid matters in every pound. These were:

				Grains
Carbonate of soda				11.35488
Sulphate of soda				0.10790
Chloride of sodium				7.27020
Sulphate of potash	19.5		• 3	0.43653
Carbonate of lime			•	1.24370
Carbonate of iron	•	*		0.01728
Carbonate of baryta				1.06890
Carbonate of mangar	1 08 e			0.00868
Carbonate of baryta	and	stront	ian	0.00215
Phosphate of alumin	a			0.01090
Silica				0.37839
G .				

21.89951

From this Fresenius, the celebrated German chemist, concludes that it is not carbonate of lime, but only sulphate of lime which causes the formation of crust, and that in the present case this is prevented by the quantity of soda contained in the water. This has given occasion to investigations, in which soda was added to water containing sulphate of lime, which hitherto had always deposited incrustations. In these cases the action was always found successful, so that Fresenius regards the addition of soda as the simplest means for the prevention of incrustation.

He gives the following rule to prevent the addition of soda in excess:—100 parts of anhydrous sulphate of lime are decomposed by 78 parts of pure calcined soda. The discovery of the correct quantity is so simple and easy, that this circumstance does not present the least difficulty. Care must be taken that there be always a slight excess of soda present, and the water in the boiler must therefore be tested from time to time. This is better and more accurately effected than with test paper, by dividing a sample (filtered if necessary) of the water of the boiler into two parts, and by adding to one part a solution of soda, to the other lime water. If the former remains clear, whilst the other is rendered slightly turbi, the proportion is correct. If the reverse is the case, soda must be added, whilst its quantity can be diminished if the turbidity with lime water be very

Preserving Oried Fruit.

A correspondent directs our attention to the preservation of dried fruit, such as apples, peaches, plums, &c. As our's is a great fruit country, he considers it a matter of great importance that those who prepare and those who buy dried fruits for sale, should have them effectually insured against the attacks of worms. He thinks that if there are any persons in our country who can suggest a remedy for worms in driedfruits, especially peaches, they are to be found among the intelligent readers of the "Scientific American." We have no doubt but many of our readers can suggest a remedy; but first of all, we will suggest one ourselves, and that is to dry the fruits by high pressure steam heat, or by a current of hot air above 212°. Or after these fruits are dried in the usual manner, to subject them in an oven to heat at about 250° Fah., for about one hour. Those who dry fruit on a large scale, will find it to their advantage to dry it by steam heat, such as by Bulkley's patent plan. We suppose there are but few who are aware that sugars which remain proof against worm corruption in our climate, are treated with a curing heat, after evaporation. That is, they are heated for a short period above the temperature, at which the moisture is evaporated, and for the very purpose of preserving them from the evils spoken of by our correspondent, namely worms.

By the latest news from Europe it would appear that in many places of France and Italy, the people were suffering from a want of food consequent on a failure of crops.

Niagara river, at the Suspension Bridge, below the Falls, is 125 feet deep.

The Fair of the American Institute, opened this week at Castle Garden.