[*Continued from first page.*]

ing above mentioned. Its forward end is suitably connected to a second pivoted bar, G; so that, when the first bar has a lateral movement, that motion is, through the connection, transmitted to the second bar. To the rear extremity of the latter is attached a chain which passes around and is secured to the small cam, H, Fig. 1. I is a larger cam, rigidly attached to and hence working on the same pivot as cam, H. Around cam, I, and secured to it, is another chain, which passes over a guide pulley at the rear end of the platform and is fastened to the caboose car. The peripheries of each of these cams, or rather eccentrics, gradually increase from the point of connection of the cables, so that the caboose is thus made to serve as a counterweight to the resistance of the plows and drag, adapting itself readily to increased or decreased strain.

The present invention is one of a series designed for grading railroad beds in all situations, except through stone, and also to keep the same in repair. Two other machines have been devised, one to make a "cut" and a "fill," and the other for ditching purposes.

Parties who will interest themselves in the securing of contracts for use of the device above described are invited to address the inventor, Mr. J. J. Harden, 83 West Van Buren street, Chicago, Ill.

Communications.

Our Washington Correspondence.

To the Editor of the Scientific American :

Notwithstanding the general stagnation of business, the issue of patents still keeps on, the hard times appearing to have sharpened the wits of our inventors, thus proving, in more senses than one, tbat "necessity is the mother of invention," and causing the business of the Office to increase very much of late. The issue of March 6 was about four hundred, including patents, reissues, designs, trade marks, and labels.

An examination of the list of the acts of Congress of the last session that received the signature of the President shows but three relating to patents, namely, the acts for the relief of Henry Voelter, T. Bussell, and W. W. Hubbard. The first two of these is to authorize the Commissioner of Patents to extend the patents of the two gentlemen named, the first for a process for the manufacture of paper pulp from wood and the other for a car spring. The last act, according to the title, is "to make compensation for the past making, using, or vending of his patent explosive shell fuses and percussion exploders by the United States." There were other patent extension cases passed, but failed to meet the approval of the President, and hence have not become laws. No sewing machine patents have been extended, and it therefore appears that the monopoly of the sewing machine combination is about to end, and that about May next the prices of sewing machines will drop to a reasonable figure, or as soon thereafter as other manufacturers can supply the market.

Mr. Nathan Appleton has been in consultation with the late Centennial authorities at Philadelphia, and, as a result, has presented to Secretary Evarts a sketch of an organization for the proposed American exhibit at the next Paris Exposition, together with an estimate of the necessary expenses. He estimates that $300,000 is the least amount with which a proper exhibition can be made, and this on the supposition that the goods will be received at New York in government warehouses and shipped to Havre in United States Government vessels. He believes, however, that $500,000 should be appropriated to do the country credit at Paris. The gentlemen who are shaping the present movement entertain strong hopes that the President will be able in some way to accept the invitation of the French republic at an early date, as they find there is a general desire among Americans to take part in the Exposition.

I hear of no changes worth noting in the officials of the Patent Office, although rumors of the proposed removal of the Commissioner and his assistant have been flying around of late; but I have been unable to trace these rumors to any reliable source, and it is generally believed there is no foundation for them, as the new Secretary of the Interior is said to be a strong believer in civil service reform, and he would have to stultify his past record to make these removals. He is said to be now engaged in framing his views in relation to the civil service into the form of a code of rules to govern the department over which he presides, and which will, it is believed, form the basis of the government of the other departments in the matter of appointments, etc. It is reported that he has signified his intention of making no removals where the incumbent proves qualified, diligent, and efficient, and it is therefore hoped that all the trustworthy officials in the Patent Office will retain their positions.

The Post Office has invited tenders for the contract to manufacture postal cards for the next four years, from which it appears that, during the last fiscal year, 150,815,000 cards were issued; and it is expected that the issues for the current year will be about 180,000,000. It is thought that the number required during the next contract term will reach the enormous number of 1,000,000,000 at least.

Washington, D. C. OCCASIONAL.

Friction of Slide Valves.

To the Editor of the Scientific American :

In your SUPPLEMENT, No. 62, there is an article by Mr. Hill on the friction of slide valves, which, while it contains some truth, is yet enough in error to deserve notice. Allow me to say in the beginning that I am not one of those "semi-mechanics" who, to use Mr. Hill's expression, have been "peddling" balance slide valves. I am simply a mechanic who, in common with a great army of similarly situated men, contrive to gather up from year to year considerable information from the columns of the SCIENTIFIC AMERICAN, and it is because so many young mechanics make that paper their textbook that I venture to offer objections to Mr. Hill's conclusions. There are in the country mechanics who have invented, and no doubt to some extent "peddled," balance slide valves, and who, in point of ability, might not suffer in comparison even with Mr. Hill himself, and it certainly does not assist his argument to disparage these men at its commencement. Some of these inventors have, as is well known, supplemented fair scientific attainments by exhaustive practical experiments; and while they do not claim to save "25 to 50 per centum" they do claim to show a slight saving in fuel, a very material saving in eccentric and connection to valve, and undoubtedly considerably more than the highest figure named by Mr. Hill in the wear of valve and seat and consequent "blowing." Mr. Hill is certainly to be commiserated if, in all his varied experience, "there is not a single relieved valve in use" that does not leak to the extent he indicates; and he may be assured that he can find several of them in this section which have been running from two to five years without any repairs whatever. All the leak from the packing of these valves passes directly into the engine room without becoming a nuisance at that. So much for Mr. Hill's gratuitous attack upon the venders of balance valves.

In regard to that very useful and somewhat intelligent class, engine builders, whom he tells with so much modesty that they have always been in the wrong as to the pressure on a slide valve, it is to be presumed they will hold their "erroneous ideas" notwithstanding the demonstration which makes the case much clearer to Mr. Hill than to men who know better by experience. There need be no question in any one's mind, if he obtain his data for balancing slide valves from these conclusions, that it will not require even a "very short time" for them to become so leaky as to be voted a nuisance. In fact, were Mr. Hill to construct a valve of the dimensions indicated in his article, deducting as constant counterpressure his steam post and additional area, which at full steam chest pressure shall be the equivalent of the highest pressure reached by compression acting constantly upon the exhaust cavity of the valve, allowing besides a liberal margin for holding the weight of valve, there is no doubt any of the "half mechanics" would guarantee his valve to stay anywhere else in the chest rather than in its proper place against its seat.

Troy, N. Y. NOT A PEDDLER.

Facts in Nature.

To the Editor of the Scientific American :

I read in your journal for March 17 an article entitled "Do Snakes Catch Fish?" Perhaps it is not a generally known fact, but most of our water snakes are expert fishers. Especially so is our common species, *tropidonotus sipedon*, Linn. Last spring my brother witnessed the capture of a water snake in a small stream flowing into the Schuylkill. The stomach of the snake was observed to be greatly distended, and on being cut open, to ascertain the cause, a large catfish, apparently just swallowed, was extricated. The snake measured two and a half feet in length, and the catfish seven inches. The fish was fully armed with the long sharp spines common to the genus, and must have proved a reluctant dinner, dying "game to the last."

I once saw a water snake in full chase of an eel. I was sitting on a small rock, quite near the surface of the stream, and observed them well. As they passed me, the eel led by about two feet; and as far as they were visible, the snake seemed to be gaining ground. But although I dropped my rod, and soaked my lower extremities considerably in the attempt, I was unable to see the termination of the affair. The snake appeared to be three feet in length, and the eel about the same size, certainly not more than two inches less. Professor Allen once saw a water snake hauled from the water and killed, that had a live pickerel in its mouth a foot in length.

The common water snake does not always capture its prey by a fair chase. I have several times seen it lying in wait among rocks and stones, with its head and part of its neck only visible; and when a fish or tadpole swam by, it would instantaneously dart forward and seize the unknowing trespasser.

Philadelphia, Pa. C. F. SEISS.

Patterns for Fret Saw Work.

To the Editor of the Scientific American :

Those who wish to duplicate the above named patterns find the use of impression paper tedious and inaccurate. My method is as follows: Take two pieces of wood of proper size, cut any number of sheets of common writing paper to the same size as the wood, place the sheets on one piece and tack the other piece of wood to it with the paper between. Paste your design on one side and saw through paper and all. Saw the holes first and then the outlines accurately; and when done you will have as many beautiful designs as you wish with the least possible labor.

McLean, Ill. FRET SAW.

The Frost Plant of Russia.

To the Editor of the Scientific American :

In your issue of February 24, I see a picture of what is entitled "The Frost Plant of Russia." I have seen the identical phenomenon on a certain kind of weed stalks in Fayette county, Tenn. While teaching a country school in that county, in 1873–4, my school children and I gathered the "frost flowers" frequently. They were most beautiful in the morning, and usually melted away during the day when the sun shone. I do not think that snow had any influence over them, and am of Dr. Darlington's opinion as to their formation.

Fall River, Mass. T. R. VESTAL.

Beavers in California.

The Stockton (Cal.) *Independent* publishes the following: "As the tules of this vicinity abound in beaver, numbers of hunters and trappers have made an excellent living in capturing them for their pelts. The latter are worth $2.50 each, and an industrious trapper can catch from 30 to 50 a month. In the equable climate of California the time of year seems to have no especial effect on the excellence of the beaver fur, it being equally good in summer and winter. The trapper can, therefore, pursue his avocation uninterruptedly the year through. With the beaver he can catch and the other game he can send to market, an industrious man can make $100 a month and live as his own master. The trapper's outfit for the San Joaquin tules is a peculiar one. Two hunters usually join together in the outfit of an ark, or floating house, with which they paddle out through the innumerable sloughs that intersect the pathless jungle of tules. The ark affords one small room or cabin, provided with sleeping bunks, and furnished with a stove and complete culinary outfit. In this ark the hunter lives in comfort, always having a shelter, while its compact shape and size allows it to float in the smallest stream, thus bringing the hunter and his home in the very midst of his game."

A New Fire Extinguisher.

A new fire-extinguishing chemical compound has been lately devised, which, in its application for extinguishing fires, is quite different from the fire annihilators in general use. The new composition is a mixture of chemicals which, on being ignited, evolve sulphurous acid and carbonic acid gases, which fill the apartment or building, producing an atmosphere which smothers combustion. A successful trial of the invention was recently had in front of the City Hall in this city.

A board shanty, 13 feet square and 10 feet high, was erected to represent an apartment, and furnished with a door, window, and a stovepipe coming through the roof. The interior was coated with tar. On a bench were placed seven basins containing benzine, coal oil, and naphtha. In one corner was a 10 lbs. box of the extinguishing compound, with a fuse attached to it running round the walls, on the self-igniting plan. The combustibles were set on fire, and in an instant the interior was one sheet of flame, bursting out through the door, window, stovepipe, and every aperture. A few moments after the compound was ignited, the gases that were generated therefrom instantly subdued the flames; and in less than half a minute the fire was entirely extinguished.

The new substance is called "Reec's Compound Fire Extinguisher." G. J. Crikelair, of 263 Broadway, is the general agent for New York, New Jersey, and Connecticut.

Good Forgers.

The question has often been asked us, says the *Carriage Monthly*, "How is it that some smiths are able to make better forgings than others?" or "How is it that ——— is always so successful with his welds?" The secret of all this is in first knowing how, and after knowing how, in doing, or trying to perform, what we know. The knowing smith so lays out his work at the close of the day that his first work in the morning will be the heaviest, and such as requires but little welding. By doing this he not only leaves the lighter portion of his labors for the waning of the day and also the tiring of his arm, but he removes the chill from the anvil and other tools to such an extent as to prevent the iron from becoming chilled before the weld is properly made. His fire is always clean. His tool rack is always in order, thus enabling him to grasp the required tool at the proper time. He never places his iron in the fire a second time until, with a file, he has removed all the scales. The ice-cold anvil will chill the thin part of the "scaff," and prevent the welding of that portion. It is impossible to take a clean heat with a fire full of slag. If you have to hunt five minutes for a tool, your iron has become cold, and unless you remove the scales and other matter, your forgings will not be perfect.

Sawdust in Rough Casting.

Siehr recommends very highly the use of sawdust in mortar, as superior even to hair for the prevention of cracking, and subsequent peeling off, of rough casting under the action of storms and frost. His own house, exposed to prolonged storms on the seacoast, had patches of mortar to be renewed each spring; and, after trying without effect a number of substances to prevent it, he found sawdust perfectly satisfactory. It was first thoroughly dried, and sifted through an ordinary grain sieve, to remove the larger particles. The mortar was made by mixing one part of cement, two of lime, two of sawdust, and five of sharp sand, the sawdust being first well mixed dry with the cement and sand.

Progress of Rinderpest.

In view of the renewed and alarming appearance of this fearfulmalady in Europe, the Treasury Department has lately issued the following instructions to collectors and other officers of the customs:

"The prevalence of the rinderpest in Germany, and of that malady and the foot and mouth disease in England, has led this Department to prohibit the importation of neat cattle and the hides of neat cattle from those countries into the United States. By reason of the proximity of Holland and Belgium to Germany, and of Ireland to England, the prohibition is hereby extended to embrace such importations from those countries.

"The Department is informed that the rinderpest is infectious as well as contagious, and that sheep, horses, and swine may be media for its communication. It is also understood that the litter upon which these animals sleep spreads the disease. While the Department has no authority under the law to prohibit the importation of horses, sheep, and swine, it desires that all measures practicable be taken on the arrival of such animals from the countries named to prevent the possibility of contagious diseases being communicated thereby to stock in the United States.

"It is suggested that horses, sheep, and swine, coming from any of the countries named, be examined by experts, and, if necessary, quarantined for a reasonable time; to which it is apprehended that importers, as a rule, will offer no special objection, as it is to the interest of all concerned to prevent the spread of this disease in the United States. Blooded stock coming from the countries named may be admitted when accompanied by a consular certificate of non-infection, as authorized by Department's letter of the 16th of March last, it being presumed that such stock is selected with care, and that it would not be taken from herds which are infected with the diseases mentioned."

Cotton Seed Oil—Its Manufacture and Uses.

Among the great number of special industries created by cotton is the manufacture of oil from the seed. And although this product does not compare in value with sheeting, shirting, yarn, thread, and the remarkable variety of other cotton goods, yet the oil has even a closer connection with our bodies than the shirts on our backs. But, not to begin with the end, it is better to describe its manufacture before stating its destination.

Probably there ought not to be a cotton seed oil mill in the country, for the seed is valuable as manure and as food. Its seed is a strong fertilizer when crushed and composted, or when rotted alone; or even when plowed under whole, it is a material return to the earth for its generosity. The dried plant itself has but little strength, but it helps to loosen stiff soils, and therefore is plowed under or allowed to rot on the surface when the field is prepared for a new planting. The seed, when prepared as a fertilizer by crushing, rotting, or by grinding the dried oil cakes, is used as guano, in hills of corn, in drills of other grain, or spread broadcast on meadows and gardens. Another profitable use of the seed on a farm is to boil it with corn or meal and give it to cattle. It is excellent feed for milch cows in this form, or as meal made from the pressed oil cake.

The farmers who will sell their cotton seed at $7 per ton, delivered at the railroad, are few in Alabama, happily for the improvement of the country. In Louisiana and Mississippi, where the soil is rich and stock is scarce, the mills get enough seed to be profitable factories. There are about 10 in those two States. Here there are but two, and they cannot get sufficient seed for continuous work. Georgia, which is said to use now more fertilizers than any other State in the Union, has no oil mill. This should be counted a great addition to her thrift, if the bull can be pardoned.

The cotton seed as it comes from the gin has still some cotton lint. It looks like a white cocoon, about one third of an inch long and half as thick. In a mass the seeds adhere slightly together and look like a lot of dingy cotton waste. From such a heap they are shoveled into a hopper, in which a screw, revolving in a trough, divides them into small bunches and empties them into elevating cups on a belt. This elevator empties them into a revolving screen with meshes smaller than the seeds. Here the sand, dust, and other small particles of extraneous matter are sifted out and the seed passed into another elevator that empties it into a second revolving screen. This has meshes large enough to pass the seeds, but too small to pass the cotton husks or bolls, sticks, stones, jack-knives, and horseshoes, that often come with the seed. From there the seed passes into a gin, made expressly for the purpose, to remove the short lint left on it by the first gin. An elevator takes it to a huller for removing, or rather breaking, the shell. The huller is a heavy cylinder, provided with knives, that pass between teeth so close together that the seeds are cut in two or three pieces. The cotton ginned from the seed passes to a carding machine, and is there carded for use. It is available for butts, and other materials not requiring long fiber. It is used with success in the manufacture of cotton blankets, which, it seems, are highly recommended in this country.

The cracked seeds pass from the huller to a revolving sieve, or separator, that allows the meats to fall into a trough, but retains the shells. These shells are passed by a chute to the engine room for fuel. The meats go from the separator to a reciprocating sieve, which passes the pure meats through it, but retains the few shells with meats that were not separated, and sends these back to the separator for a second sifting. The meats pass between two heavy iron rollers of great force, and are pressed into thin flakes, making a meal of yellowish-green color. This meal is placed in the heaters, which are iron tanks about 4 feet in diameter and 15 inches deep. These are double, the inner vessel being surrounded by steam at a pressure of 35 lbs. to the inch. The meal is stirred and heated, being dry, for five minutes. This dry heat frees the oil from its envelope. The meal is then scooped into strong sacks about 2 feet long and 10 inches wide, and placed between boards hinged together as the covers of a book are. Several of these sacks are then piled under a hydraulic press of great force, and squeezed for five minutes; they are then passed to a second and heavier press for the same length of time, and then to a third press. The oil runs from the presses to a tank and settles during 12 or 24 hours. It is then barreled for shipment. The cake of cotton seed meal is taken out of the sack and stood on its edge in a rack to dry during three or four days. The cakes are then packed in strong sacks or are broken up and ground into meal again to ship in bags. The most of it goes to England for cattle food and as a fertilizer. Some of it is sold in this country as a fertilizer at $20 to $22 per ton. A ton of seed produces about 20 gallons of oil, worth from 30 to 35 cents per gallon.

The crude oil thus made is sent to refiners in New Orleans, Cincinnati, and New York. It has a yellow color and a sweet taste of nuts. It is used, crude, for painting, and mixed with lard oil for lubricating. It is also mixed with some lighter oil or spirit for miners' lamps, for which its non-explosive quality makes it valuable. When refined it is difficult to tell all its uses. It is mixed with many other oils and passes for them. Here in the South it is much used for cooking in place of lard; and many a bottle bearing an assuring French or Italian label for olive oil is filled with this product of the cotton plant.—*Letter from Alabama in New York Times.*

Cheerless Workshops.

There are scores of workshops in this and other countries that are far from attractive in regard to their surroundings and interior arrangements. Many of them are dark, crowded, dreary places, where a stated stint of labor is performed according to a prearranged agreement, for which a stipulated price is paid; and were it not for the daily call of want, there would be no incentive to labor. We have seen workshops that were dark and damp, destroying the health and buoyancy of the spirits of the operatives, when a small sum perhaps would add not only warmth and light, but fill the place with pleasant surroundings. The surroundings of the place of labor have more influence upon the operative than many are aware of. Give a mechanic clumsy tools to work with, a rough, dirty bench to work upon, imperfect light, scarcely elbow room, and but little care exercised respecting proper ventilation and warmth, and he will become careless, his work partaking of the character of his surroundings; he will think more of getting his wages at a certain time than of the completion of his work. A few years of this experience will spoil almost any workman, no matter how good he may be.

But give him, on the contrary, good tools to work with, and a nice place in which to perform work, and he will insensibly take more pains with it than in a badly arranged apartment. In a pleasant room he will, of his own accord, keep his tools and work in good order, and more cheerfully perform the task assigned to him. A kind of magnetic influence of the surroundings will infuse itself into the operative, and his work will partake of that and go from him stamped with the impress of the influence thus created.

The above is from one of our exchanges, the name of which, we regret to state, has been mislaid. The article contains sensible advice, and we are sorry we cannot credit the source of it.

The Smithsonian Institution.

Professor Joseph Henry says that he has been trying for years, in regard to the Smithsonian Institution, to get the government to understand that the great testator never intended, by his magnificent gift, to accumulate a mere deposit of scientific works, but to collect all manner of new information for distribution among the nations of the earth. He has at last accomplished this. Chief-Justice Waite takes the same view, and the institution is now sending contributions of American discoveries, science, art, antiquities, history, and inventions generally, to more than 2,000 universities and colleges in every civilized portion of the globe, and these in exchange return to us the printed evidence of their own successful researches in all these various studies and inquiries. Both these contributions from us to distant nations and from the distant nations to us are delivered free of cost, by order of the respective governments. Owing to careful investments in United States securities, there remains to-day to the credit of the institute $714,000.

A Small Flower Garden.

A writer in the *Western Farm Journal* recommends for a small flower garden the following list, as they do not require treatment, are good sturdy varieties, will stand neglect, yet do well: Asters, balsams, dianthus, petunias, phlox, calliopsis, verbenas, sweet peas, mignonette, cinnias, marigolds, and portulacas. The same writer again says: "The plants I have named will afford a profusion of flowers from June to October. Phlox will be the first to blossom, and then petunias will come on, and both of these flowers continue to increase in beauty until hard frosts come. Asters will be in perfection in August and September. Calliopsis begins to blossom in July, and nearly all the others come on early in that month. If old flowers are removed and not allowed to go to seed, you will have a much greater profusion of bloom. If you do not remove faded flowers, but allow them to perfect seed, you will soon see that your plants are losing a large share of their former glory. You can't expect a plant to ripen seed and blossom profusely at the same time."

Photo Magic Lantern Slides.

At a recent meeting of the photo section of the American Institute in this city, during a discussion on the above subject, Mr. Roche said that, for lantern slides, emulsion plates gave the finest films, good bath plates next, and carbon last; that silver pictures for transparencies gave brilliancy and more contrast, and that many of the pictures exhibited were under-exposed and over-developed, thus giving too great a contrast and lacking in detail. Pictures for the lantern should be full of detail, soft and brilliant. Anything approaching a veil or fog over the picture is fatal. The high lights should be almost clear glass. The opinions of other members coincided with the remarks by Mr. Roche.

Mr. Newton, the President, remarked that he presumed it was not generally known, even by emulsion workers, what an increase of sensitiveness to the action of light was produced on an emulsion plate by the application of the alkaline development. In this respect it differed entirely from the action of an acid iron developer on an ordinary bath plate: whereas the iron developer on an ordinary bath plate nearly destroys its sensitiveness to the action of light, the effect of an alkaline developer on an emulsion plate increases its sensitiveness at least a hundredfold. He also stated that he had fogged an emulsion plate during development with the light of a kerosene lamp turned low and protected with manilla wrapping paper. This was occasioned by simply holding it a little too near the light to determine the stage of development. The fog commenced nearest the light, and diminished in the ratio of its distance from it. In the center of the plate, beneath the rubber of the pneumatic holder by which it was held, and where it was entirely protected from the action of light on the back, it was wholly free from fog and remained perfectly clear. By exercising more care, in removing the lamp to a greater distance and protecting it with more thicknesses of paper, he met with no further difficulty. He gave it as his opinion that much of the trouble experienced by those trying emulsions arose from developing in too strong a light.

Mr. Roche stated that, in working some good emulsion, the plate during development fogged. He therefore stopped out all light possible in the dark room, and then the plates developed clean and perfectly free from fog, confirming the remarks of the President on that subject.

Chemical Prizes.

Among the prizes offered by the German *Verein zur Beförderung des Gewerbfleisses*, the following may prove of interest to our readers:

A silver medal, or its value, and 900 marks (about $200) for an opaque red enamel for gold, silver, copper, and bronze.

A gold medal, or its value, and 3,000 marks, for a substitute for caoutchouc, the same for a suitable substitute for gutta percha.

A prize of 1,000 marks for a concise, critical, and practical treatise on cements; also 1,500 marks for the best investigation of the cause of a change in the zero point of thermometers, with a method of preventing or remedying it.

A prize of 2,000 marks for the best series of iron and manganese alloys, at least twenty samples to be prepared, containing from 0·5 to 5 per cent of manganese.

Comparative Health of Cities.

The Health Bureau of the German Empire reports that during the week ending on the 27th of January last, the number of deaths to every hundred thousand of the inhabitants in the cities enumerated were as follows:

Berlin	42	Copenhagen	58
Cologne	52	Stockholm	55
Magdeburg	56	Christiana	45
Strasburg	76	Warsaw	28
Munich	60	Naples	41
Augsburg	89	Turin	43
Dresden	38	Bucharest	59
Leipzig	34	London	40
Brunswick	41	Liverpool	55
Hamburg	48	Glasgow	49
Vienna	52	Dublin	58
Pesth	81	Edinburgh	41
Prague	95	Alexandria, Egypt	85
Amsterdam	56	Madras	121
Rotterdam	51	Bombay	65
The Hague	44	New York	47
Basle	65	Philadelphia	32
Brussels	49	Boston	37
Paris	53	San Francisco	58

Five Thousand Dollars Reward for a New Invention.

The Directors of the London General Omnibus Company offer to award a prize of £1,000 for an invention or a scheme for effectually recording or checking the receipts of their passengers' fares, and which may be accepted by them as being so effectual. But the acceptance of any invention or scheme is to be entirely in the discretion of the directors, who will not be bound to accept any invention or scheme at all, nor to give any reason for non-acceptance.

To Polish Watch Wheels Without Injuring Them.

Take a flat burnishing file, warm it over a spirit lamp, and coat it lightly with beeswax. When cold, wipe off as much of the beeswax as can be readily removed; and with your file thus prepared, polish the wheel, which should rest on a piece of cork. The finish will be of the finest kind, there will be no clogging, and the edges of the teeth, etc., will remain perfectly square.