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Rail-Road News.

Railroad Accidents in England.

The usual half-yearly document relative to railway accidents has been printed by order of the House of Commons. In the half year ending the 31st of December last, there were 123 persons killed and 188 injured. Nine passengers were killed and 38 injured from causes beyond their own control, 11 passengers killed and 9 injured owing to their own misconduct or want of caution; 40 servants of companies or of contractors killed and 11 injured owing to their own misconduct or want of caution; 26 trespassers and other persons, neither passengers nor servants of the company, killed and 5 injured by crossing or walking on Railways; 1 suicide. The number of passengers conveyed during the half year amounted to 41,087,919. The length of Railway opened on the 30th of June last was 6,308 miles, and on the 31stof December the length was 6,621 miles, making an increase of 313 miles.

Plank Roads in New York.

The following table shows the number of Plank Roads in the State of New York :

Name.	Opened.	Miles.
Great Western Albany,	1849	11
Fonda and Garoga,	1845	18
Fultonville and Johnstown,	1849	5
Rome and Utica,	1848	15
Utica and Burlington,	1849	5½
Rome and Oswego,	1847	60
Rome and Western,	1849	11
Rome and Taberg,	1849	9
Rome and Madison,	1849	22
Salina and Central,	1847	16
Syracuse and Manlius,	1844	8
Syracuse and Bridgeport,	1849	12
Syracuse and Oswego,	1840	32
Syracuse and Liverpool,	1849	11
Syracuse and Tully,	1848	25
Split Rock Head,	—	—
Hannibal and Oswego,	1848	11
Hannibal and Oswego,	1849	5

Total 276½ miles. The tolls which the farmers pay are not taxes, in one sense of the term—they are saved in the larger loads they are enabled to draw, the greater speed at which they are enabled to travel, the wear and tear of harness gearing and animal strength; and, finally, if it were for nothing more, than the pleasure of riding on a smooth plank road in comparison with an old corderoy one, hard-hearted must be the man who would not pay for it.

Great Steamboat Running.

The steamboat Reindeer, running between this city and Albany, has oftentimes run at the rate of 25 miles per hour. She has run from Albany to New York in 7 hours 45 minutes, and made all the landings; she is allowed to be the fastest steamboat in the world.

The growth of larch, which, it is said, is as lasting as the English oak, is much recommended by the "Builder."

AQUATIC VELOCIMETER---SHIPS' WAY MEASURER.

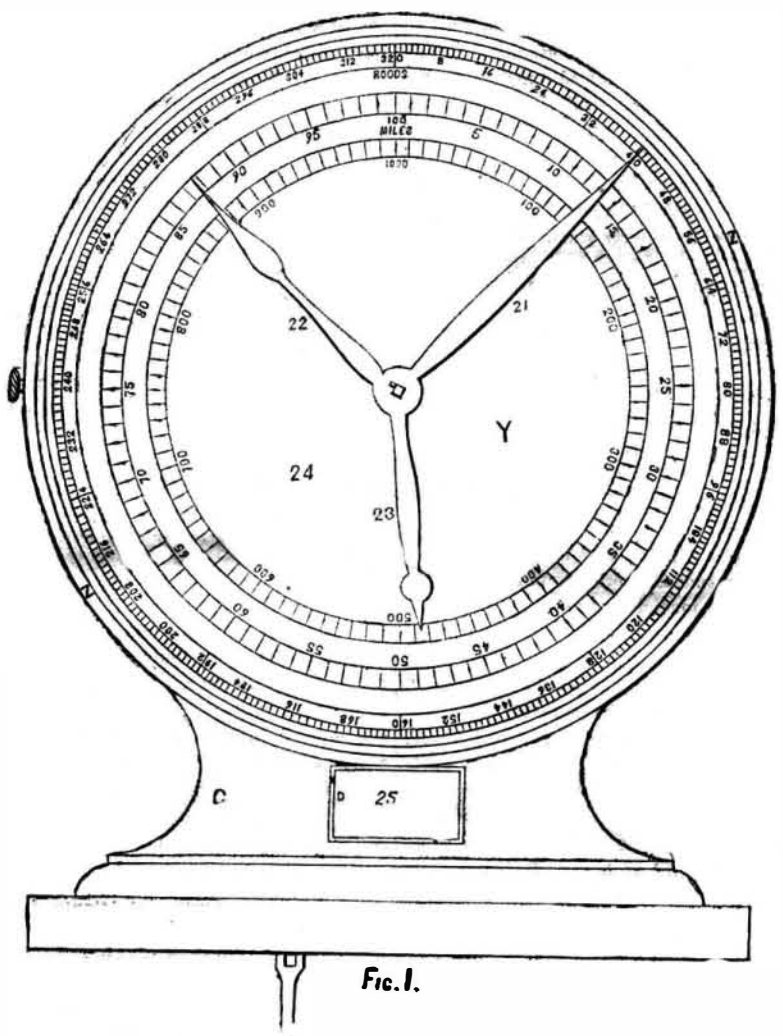
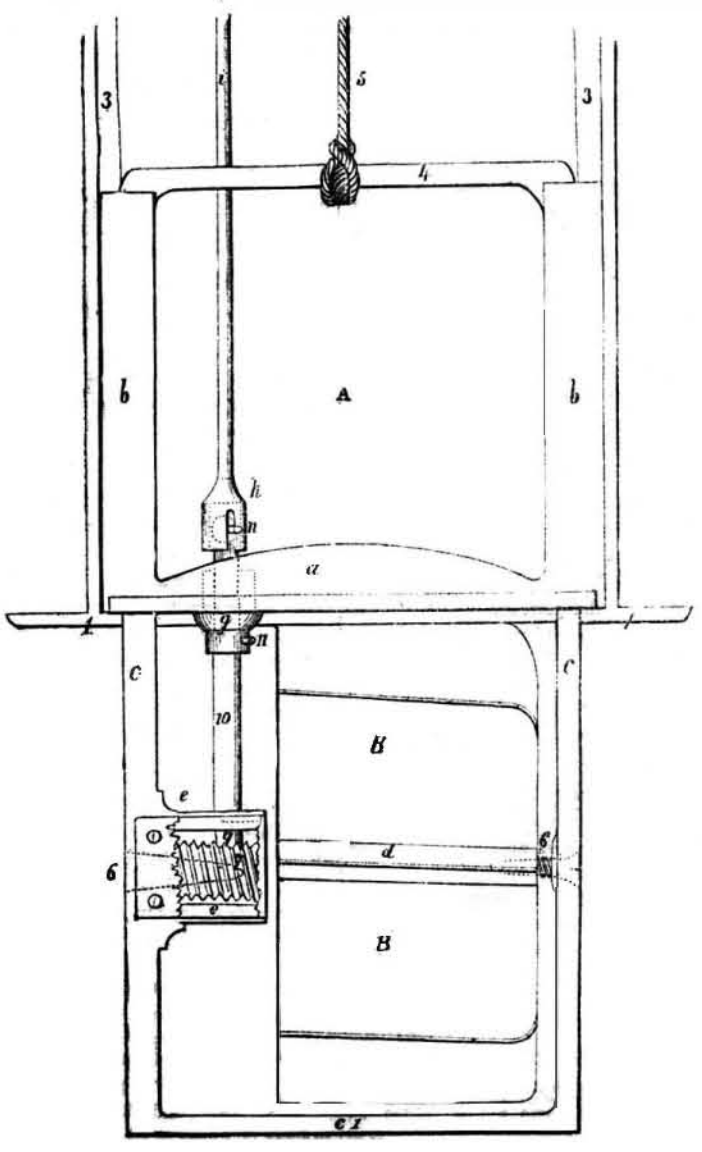


FIG. 1.



The accompanying engravings illustrate the patent granted to Mr. John R. St. John of this city, patented on the 13th of last month, and assigned to the "Trustees of the St. John's Compass and Log Manufacturing Co.," composed of James Renwick, L.L.D., Geo. F. Barnard, and Edward B. St. John, New York city. As there are a number of engravings, and as the specification is a long one, we are obliged to occupy more than one .page with the subject.

The object of the invention is to denote the speed of a ship through the water, and to register the distance it has run.

Figure 1 is an elevation of the Velocimeter wheel, and a section of the pipe enclosing the connection of the recording clock-work, the registering face of which is also shown. Figure 2 is a section of the clock-work, and a side elevation of the wheel. These two figures include the connection from the Velocimeter wheel to the clock-work. The connection with the registering apparatus, and the wheel that is actuated by the water below, is represented in broken lines, so as to show the whole machinery, only leaving out, to shorten the engravings, the parts of the tube that do not require to be exhibited. Figure 2 is placed on another page along with figure 3, a front elevation of the clock-work with the disc and recording face removed. The same letters refer to like parts.

The improvements comprise—1st, the means of fixing the mechanism in place for use, and detaching the same easily for examination or repair, and for refixing again without reference to the situation of the ship. 2nd, the certainty of denoting and registering the number of miles the ship has run through the water. 3rd, the means of detaching the working parts from the Register at pleasure, so that the latter shall not operate when the ship is at anchor in a tide way. 4th, fitting the acting parts, so that they are protected from the effects of any vertical motion of the ship or water.

A is a tube, commencing from the deck or cabin, as may be desired; it is placed forward of the run, and terminates with a water-tight joint on the outside of the ship's bottom; 1 is a flange which is a seat for the circular metal plate, *a*, which prevents any indirect current passing into or out of the tube, A; it has an upper frame *b b*, with grooves, 2 2, (fig. 2), which receive ribs, 33, on each side. In the whole length of the tube, these ribs and grooves are set fore and aft of the ship, and serve to guide the apparatus into or out of the proper place for work. The cross piece, 5, on the frame, *b b*, has a rope 5, by which the whole frame is lowered and raised at pleasure. Below the orifice, the plate, *a*, has two hanging standards, *c c*, and a foot piece, *c'*; these and the frames, *b b*, are all made solid with the plate.

Between the standards, *c c*, two screw centres, 6 6 carry the ends of the principal shaft or arbor, *d*, on which are set eight paddle-blades, B B; these are placed on the shaft, *d*, not parallel with the axis, but at such an angle of deflection, in proportion to their length, that a progress of four feet, in a direct line through the water, shall give the blades, B, exactly one complete rotation and no more. At *e e* two flanches, cast solid with one of the standards, *c*, form the top and bottom of a box; this is enclosed with a strip of metal screwed on the sides of the standard, and has a hole to pass the shaft, *d*, which, within the box is fitted as a single thread worm wheel, 7, that gears into a corresponding tooth-wheel, *f*, with forty teeth set on a pivot stepped arbor, 8, in the bottom of the box, with a square,

(Continued on the Fourth Page.)

New Inventions.

Improvement in Tailors' Measures.

Mr. C. S. Gates, of Morrisville, Vermont, has invented an improvement in measures for taking the dimensions and proper form of the human frame, for the purpose of cutting garments to fit the body in the most proper manner. He employs flexible moulds, having perforations and numbers in them, which, being laid upon or applied to the human body, indicate the exact points for cutting the garment to the proper shape to suit the person measured. The benefits of a flexible measurer to delineate the shape, are apparent, knowing how variously modified human frames are, and how difficult it is to fit some persons. Measures have been taken to secure a patent.

The Manufacture of Barrels by Machinery.

We perceive in great numbers of our home exchanges an article quoted from the Glasgow (Scotland) Daily Mail, describing an invention recently introduced into that city for the manufacturing of barrels by machinery. It would appear that many in our country are not aware of the existence of machinery here for manufacturing barrels from the stave—completing the barrel by continuous operation. The readers of the Scientific American, however, know this to be true. Barrel machinery is now of a somewhat old date in America. In this country, celebrated for an abundance of the finest timber, we have also the best machines for working in wood. In 1827, we think, the first patent for dressing staves by machinery was taken out by a Mr. Wm. Hale, and since that time quite a number of other machines have been invented. We have published engravings of three of them, and there are one or two in existence which we have not yet had an opportunity of illustrating.

Ships' Cable Nippers.

Mr. Robert Dixon, of Brooklyn, N. Y., has invented a new and useful contrivance for attaching the cables of ships to the messengers employed in hauling them up, for which he has taken measures to secure a patent. The nippers consist of metal jaws hinged together at one end, whereby they are easily closed and released, and in the inside the jaws have recesses, which, when they (the jaws) are closed, form openings in which the cable and messenger are held secure from dragging endwise, by knots, if the cable be of rope, or by the links of the chain. These nippers are far superior to the rope kind which are in common use.

Improved Mortising Machine.

Mr. Avery Kinney, of Homer, Cortland Co., N. Y., has invented and taken measures for securing a patent for some very valuable improvements in mortising machines. He employs two tables or bed pieces, one upon the other, the upper one, across which the boring frame travels, slides in the direction of its length over the second, it being operated by rack and pinion, and so connected and operating together as to admit of the auger being moved or set at different points on the timber without loosening the machine and re-fixing it, in the manner required by other mortising machines.

Improved Fence.

Mr. Robert McConnell, of the city of Pittsburg, Pa., has invented and taken measures to secure a patent for improvements in picket fences, whereby he unites the fence by tie rods passing through the pickets and intermediate pieces, in combination with loose swivels, so that the different sections of a picket fence can be put together in a very cheap and expeditious manner.

Endless Printing Press.

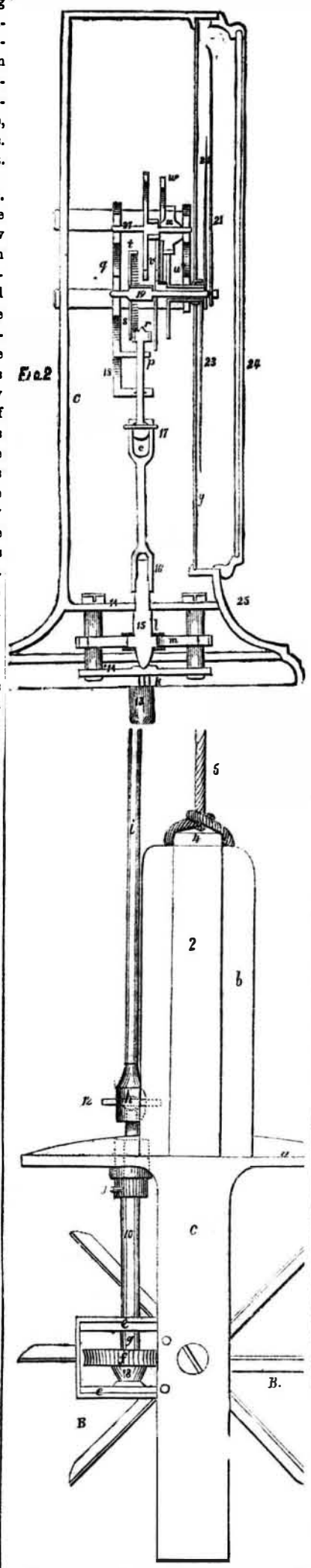
Mr. J. O. Osborne, of Akron, O., writes us he has projected a printing press, by which he thinks he shall be able to print a Bible in one second of time. The idea embraced is, to have the forms stereotyped and curved for cylinders, and to have the cylinders so duplicated as to print both sides of the paper or book at one operation.

Aquatic Velocimeter---Ships' Way Measurer.

[Continued from the First Page.]

9, on its top, taking a socket in the lower end of a short vertical arbor, 10, as shown by dotted lines in figures 1 and 2; the arbor goes through the top of the box, *e*, and through the plate, *a*, of the frame, beneath which a set collar, *g*, and pin, 11, keep the shaft, 10, from rising off the wheel, *f*: above the plate, *a*, the arbor, 10, has a pin, 12, that takes a two part slot in a socket, *h*, at the lower end of a

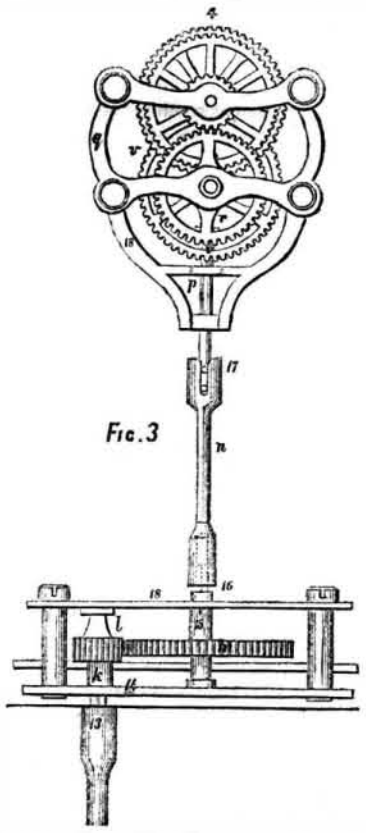
Fig. 2



vertical rod, *i*, this is prolonged up, through the tube, A, and finishes at top with a square key socket, 13, which receives the square end of a short arbor, *k*, set in a two part frame, 14 14; this is fixed in the lower part of the clock-work case.

The arbor, *k*, carries the leading pinion, *l*, of twelve teeth, this gears into a leading wheel, *m*, of sixty-six teeth, set on a spindle, 15, which goes through the upper frame plate, 14, and finishes with a short square, having a round end above it, these parts receive the socket piece, 16, of the coupling rod, *n*, fitted to the top of the spindle, 15, so that the coupling rod, *n*, may be first lifted and turned to set the register hands above, and yet not be entirely detached off the spindle, 15. The top of the rod, *n*, is formed as a ball socket, *o*, with a pin, 17, to attach or detach the lower end of the first clock-work arbor, *p*; above this the back plate, *q*, of the clock frame, is lengthened down with two bracket pieces, 18, through which the rod, *p*, passes, receiving on its top the bevelled runner pinion, *r*, of ten teeth, fitted to gear into the bevelled face wheel, *s*; this has sixty teeth, and is set on an arbor, *x*, which backs on the plate, *q*, and goes forward, carrying the next pinion, and the canon pinions and tubes between that and the face, and outside the face carries the hand, 21; this hand counts rods up to one mile; next the wheel, *s*, a pinion, 19, of eight teeth is made with the arbor, *x*, and gears into the wheel, *t*, of eighty teeth fixed on an arbor, 27, above, and carrying on the same arbor a pinion of eight teeth, that gears into a wheel, *v*, of eighty teeth, on the canon arbor, this arbor goes through the clock face, finishing just

Fig. 3



within the point of the arbor, *x*, and carries the hand, 22, which counts miles up to one hundred in number; the canon arbor is fitted with a pinion of sixteen teeth that gears into a wheel, *w*, of eighty teeth, this wheel rotates freely on the arbor, 27, with a hub that is formed as a pinion, *x*, of thirty teeth which gears into a wheel, *u*, of sixty teeth, this is set on the second canon arbor which goes through the face, just short of the first canon arbor, and carries the hand, 23, which counts tens of miles, up to one thousand miles; *y* is the dial plate, and three sets of divisions; *z* is the basil, carrying 24, the glass over the dial, and at 25 an opening and door is shown, by which the fingers can be introduced to reach the socket, 16, to set the hands in unity at the time the skip is taking a departure, and thereby avoid removing the glass and basil, and yet set the hands in unity, without touching them. The parts are shown as in a vertical metal box, placed on a pedestal, but the whole may be placed on or in a box, or frame of wood or metal as taste or convenience may dictate.

The operation and timing of the parts and the proportions of the gearing having been stated, it will be seen that forty turns of the worm, 7, will give the wheel, *f*, one turn, in one hundred and sixty feet, or thirty-three turns in one mile; the pinion, *l*, of 12 teeth going at the same speed, will give the leading wheel, of sixty-six teeth, six turns in a mile, and this giving the runner pinion, *r*, of ten teeth, the like number of turns, will give the wheel, *s*, of sixty teeth, with the arbor, *x*, and hand, 21, one entire rotation, in one mile; the pinion, 19, of eight teeth, going at the same rotation, gives the wheel, *t*, one-tenth of a rotation, and the pinion of eight teeth gearing to the wheel, *v*, of eighty teeth, gives that and the canon arbor and hand, 22, the one-hundredth part of a rotation; the pinion of sixteen teeth, gearing to the wheel, *w*, of eighty teeth, gives that the one-five-hundredth of a rotation, and this, with its hub pinion, *x*, of thirty teeth, gives the wheel, *u*, and second canon arbor, with the hand 23, the one-thousandth of a rotation for each turn of the mile wheel.

The divisions for one mile being marked as rods, give also furlongs and quarters, so that the distance run through the water can be ascertained to a fraction of a mile, if so required, by the dots between the divisions.

It will be understood that the distance run in a given time will be ascertained by comparing the hands on the dial with a clock or watch, thus practically giving the rate of the ship, in miles per hour, by mere inspection.

It is well known that many attempts have been made to apply machinery for the purpose of ascertaining the rate of speed at which a ship has moved through the water in a given time; and it is believed the best of which is known as 'Massey's Log:' this, so far as known, is a box containing machinery, which is towed through the water by the ship, and is liable to uncertainties, because a fast ship, in a short sea, will frequently jerk it out of the water, when it is in operation; the motion of the water, and of the ship, is always changing the angle of the tow line; and on hauling on board it is also liable to injury, by striking the vessel when scudding or pitching heavily; another log has been made, fitted to be placed under the counter of the ship, where it is in the eddy water the ship draws after her, and becomes uncertain in its rotation, besides being open to all the former objections, when hauling into or out of place for use; and others have been contrived in various ways; but the inventor does not know of any mechanical apparatus for ships' use that is so placed beneath the bottom of the ship as to be clear of all ordinary accidental interference, by fitting the vanes or paddle-blades, B, into a frame, constructed with grooves to slide on ribs in a tube or pipe, the bottom of which supports the frame by a bead or flanch, surrounding a disc, *a*, carrying the frame, *b*, that cuts off or prevents the effects of any vertical motion of either the ship or the water on the paddle-blades, B, to destroy the accuracy of the instrument, and fitted to act on the line of motion, so that the motive parts of the Velocimeter can be withdrawn, for any needful purpose, and again replaced for use; nor does he know of any similar instrument for these purposes, that is made to operate as a standing register of the whole distance a ship has actually run, either with or without a direct reference to time, during any portion of the distance, by the operations of the vanes or blades, B, through a rod in the tube, A, upon a registering set of clock-work wheels and hands, which the present description and engravings show as registering fractions up to one mile, and from one mile to one hundred, and thence to one thousand; so that by increasing the number of wheels and pinions, the registry may be extended to any desired distance; and the inventor does not intend to limit himself to the stated extent of the numerical registry, or to the sizes and proportions of the parts, but to vary these as may be needed; nor does he mean to be limited to the mode shown, of fitting the moving parts, but to add any mechanical means for lessening friction, and wear, whenever and wherever practical use may evince the propriety of so doing.

It will of course be understood that the motion of the ship is estimated as when moving in still water, and that any known currents are to be added, when in favor of the ship, and deducted when against her.

We hope this invention will receive the strictest attention from nautical men.

Miscellaneous.

[Special Correspondence of the Scientific American.

London, May 23th, 1851.

The number of visitors to the great exhibition has regularly increased, but at no time has there been the least appearance of a crowd. The funds are quite respectable being nearly $100,000 per week. A new and very excellent plan has been projected by the executive committee, it is nothing less than a series of scientific lectures within the building. Prof. Cowper is to lecture on the section of machinery, and Prof. Ansted (the author of a very good work re-published in the United States, termed the Gold Seekers' Manual) is to lecture on minerals. Other eminent lecturers are also engaged. This is one of the most agreeable and sensible plans, to my view, yet proposed. The different departments are not yet finished, many are still fitting up, and there is still an opportunity for some of our countrymen to come forward and fill up some more of ours.

I have not heretofore said anything about the jewelry displayed, excepting the great diamond, I take great pleasure in examining the works of jewellers, and here have had a feast; never have I seen the like, never expected to see it, and never will again in all likelihood. Diamonds, emeralds, pearls, rubies &c., flash in gorgeous grandeur—what wealth is covered by Paxton's glass and iron walls.

There is one case of artificial crystals in the British department, which claims more than a passing notice. It contains imitations in crystal of all the largest diamonds in the world. The largest and most valuable of these is the ugliest and most uninviting in its appearance; it is one of the Portuguese crown jewels, and from its astounding value, which is set down at £5,644,000, it has never been entrusted to any diamond merchant to cut or polish. In size it resembles a large turkey egg, with a piece notched out of the side: it is semi-transparent on the surface, and weighs 1,680 carets. The great Russian sceptre diamond is next in point of size and value; its weight is 779 carats, and its value, being without a flaw, and of very fine water, $4,654,-000. The Great Mogul rose diamond is estimated at £632,000, and the Portuguese round brilliant, worth £369,000. Russia has also another ovoid brilliant, worth £297,000; and there is a little flat smooth-faced Persian diamond, with the fanciful name of "The Sea of Glory," set down at £34,000. There is also the great German brilliant, valued at £155,000; and another finely-cut Persian gem, called "the Mountain of Splendor," valued at £145,000. The Pigott diamond, sold by Rundell and Bridge for £30,000, is cut in very small facets, and is of an oval form. France possesses the great Pitt or Regent diamond, worth £150,000; an English gem, called the Hornby diamond, sold to Persia for £8,000, and afterwards obtained by France; and the third great French diamond is of a sky-blue color, and is estimated at £150,000.

One company, Hunt & Roskell, display diamonds enough to purchase some lines of steamships. I saw one bouquet of diamond flowers, such as anemone, rose, carnation, lily, &c., and all of them modelled from nature. The ornament is divided into seven different sprigs, on elastic stems, each perfect in design; and the complicated flowers can be separated by a mechanical contrivance. It contains 6,000 diamonds, the large ones weighing 10 carets; and it would require 1,000 of the smaller to weigh one caret. Ear-rings of diamonds, brooches, bracelets, rings, &c., such a flashing of gems is enough to turn the heads of all the lovers of trinkets in Christendom. The collection of oriental rubies is large, and some of them of great size. One of an oval shape is engraved in *intaglio*. It represents the figure of Minerva, preceded by two serpents with twisted tails, and is the work of some ingenious artist of the 15th century. The specimens of sapphire are the largest exhibited in the exhibition; one of them of a light blue steel color and of great lustre, weighs 180 grains, and another of a beautiful indigo hue, 118 grains. Many of the sapphires are set in gold swivel rings; an engraved oriental topaz is evidently a specimen of early antique cutting.

A specimen of aqua-marine is exhibited, and is said to be the largest in the world; it weighs nearly six ounces, is of a beautiful sea-green color, and extremely well cut, with seven rows of facets in front. Many of these stones of a smaller size are curiously engraved, and there are also numerous specimens of jargoons, hyacinths, chrysolites, oriental garnets, topaz, tourmaline, Mexican and Hungarian opals, and other gems, which indicate tho vast extent of the collection, and the enormous sums that have been expended in bringing it together. The whole is rendered complete by the exhibition of oyster shells containing the pearls, rough diamonds from the Brazils, and similar specimens from the mines of Golconda and Borneo, which I must say look very different from the polished gems, for I would pass them by as bits of dirty glass. The wondrous powers of human art and ingenuity in working these insignificant looking pebbles, and bringing out their brilliancy and lustre, is strikingly exemplified in the contrast between the native or "rough diamond," and the highly finished and dazzling gems that adorn the regal looking coronets beside them The Good Book says, "as iron sharpeneth iron, so doth the face of man his fellow," and truly it may be said of the diamond. The dust abraded from one is employed to abrade and polish another—nothing else will do; even the friction of two rough diamonds is resorted to to get rid of the preliminary roughness on the well known principle of "diamond cut diamond." The process of polishing is then proceeded with. The diamond is firmly imbedded in a piece of metal—a circular piece of metal called the skive, is then charged with diamond powder and oil, and by steam or other power is made to revolve about 2,000 times per minute. The diamond is applied to this rapidly revolving surface, great care being used to place it at the required angle, and for every facet the diamond has to be removed, and again imbedded in the metal.

I noticed a valuable set of shirt buttons valued at $1,500 only, they were Golconda diamonds. Happy the fellow who does not scorn bone or the mother of pearl after such a sight. The jewelry in the English department is nearly all from London, but not made there. Birmington is a great place for the manufacture of cheap trinkets.

There is an interesting display of Irish, jewellery, in harps, fibulæ, and other Irish ornaments, composed almost entirely of Irish materials, including black bog oak, Irish gold, pearls, emeralds, &c., carved cups with designs from the celebrated Donnybrook Fair, bracelets, and brooches, in arbutus wood, mounted with Irish diamonds. One of the most elegant articles in this collection is a fibula of fine Irish gold set with large emeralds, with a figure of Antigone, in relief, in the centre, presented by the citizens of Dublin to Miss Helen Faucit, a celebrated living actres. The price might keep 100 from starving for a twelve month, but taste is everything.

The French department, in jewelry, displays the greatest taste and skill, at least I think so. There is displayed, a crown, sceptre and sword of State made by the jeweller who manufactured the coronation trinkets of his sable majesty, the Emperor of Hayti. The false jewelry of the French looks about as well as the genuine kind. The skill displayed in the fabrication of such things is wonderful. I at least could not tell the difference, the eye was pleased with the real and the fictitious But I must draw my letter to a close, not, however, without a few words of application like the winding up of a sermon.

I have been forcibly impressed with wha may be called a new kind of wealth, the amount of which is incalculable, and is of a kind which we do not know much about in America, I mean the wealth of jewelry. Among the nobles of Europe, at the courts and levees, the amount of jewelry displayed is wonderful, and the one who makes the greatest display makes some noise. There is, therefore, a struggle to posses noted articles of jewelry, and the stocks are of a different nature, but at the same time they are just like those of railroads or any other kind. Jewels have their value like other things, and that value is their market price. I suppose the jewelry displayed here, will amount to as high a valuation as $100,000,000. This may appear a large sum, but one single diamond, the "Mountain of Light" is estimated to be worth $15,000,000 itself. Another named the "Derri-Noor," (sea of light) is valued at $2,500,000. Here then, we have nearly eighteen million of dollars invested in two jewels, two small bits of things, both not quite the size of a decent pigeon's egg. I should like to have the price of them in available cash, if I would not build a line of steamships, that would make the world stare, then I would be willing to give my remains to the doctors.

Excelsior.

Patent Case---Planing Machine.

U. S. Circuit Court.—In the United States Circuit Court at Boston, June 5th, in the case of W. W. Woodworth vs. Wm. Livingston *et al*, Judge Woodbury confirmed the report of the Master, overruling the defendants' exceptions. This was a bill in equity to restrain defendants from using the plaintiff's Planing Machine, and to compel them to account for the profits. The Master reported in favor of the plaintiff, and that the defendants pay $1 for each thousand feet of boards planed, with interest on the sum found to be due. B. R. Curtis for the plaintiff, Joel Giles for the defendants.

Improved Method of Churning.

Mr. Editor—The ladies in this neighborhood have a mode of churning butter which I think is a superior one. They take the cream off the milk with as little of the latter as possible—put it into an ordinary churn, and to every quart of cream they put in a gallon of water (not quite blood warm), and churn it in the usual way. The butter comes sooner, is much sweeter, and keeps better. J. E. M.

Warrior Stand, Ala.

Mechanics Convention at Atlanta, Ga.

The mechanics of Georgia intend to hold a convention at Atlanta on the 4th of July next, and invite those of South Carolina to participate in the deliberations of the Mechanics' Convention at that time. The object is to consult upon the best means calculated to elevate the dignity of mechanical pursuits in Georgia, and the South generally.

American Telegraph in Sweden.

Mr. Wm. Robinson, of this country, is about to erect and manage, in Sweden and Norway, a number of lines of Magnetic Telegraph. He has been granted the privilege for the enterprise, which is to endure for fifty years; and a company, including several heavy capitalists in this city and Stockholm, has been formed under his auspices. A charter for a similar undertaking will, it is expected, be obtained from the Government of Denmark, and it is therefore probable that one of our countrymen will be the agent in establishing within the States named at least 3,000 miles of telegraph.

Colt's Repeating Fire Arms.

A case of Colt's pistols at the great exhibition attracted the attention of the British officers. They say, "these are just the kind of arms for the war in Kaffirland," and they recommend their introduction into the British army. Colt, the inventor, manufactures his pistols at Hartford, Conn., and employs 300 men now, but will soon employ 200 more.

To Cure Corns.

Pare the corn, and rub the part with sweet oil. This should be done on getting up in the morning, and just before stepping into bed at night. In a few days the pain will diminish, and in a few days more it will cease, when the nightly application may be discontinued.

Corns may be softened for paring by washing them with milk warm water in which some soda has been dissolved.

The American machine works at Springfield, Mass., have divided 33 per cent to their stockholders They sold $80,000 worth of steam engines last year to go south of New York.

Pearl Soft Soap.

It is only a few years since the process for making this elegant soap became known in France. It differs little from Toilet Soap, and owes its beautiful aspect merely to minute manipulations, about to be described. Weigh out 20 pounds of purified hog's lard on the one hand, and 10 pounds of potash lye at 36° B. on the other. Put the lard into a porcelain capsule, gently heated upon a sand-bath, stirring it constantly with a wooden spatula; and when it is half melted, and has a milky appearance, pour into it only one-half of the lye, still stirring, and keeping up the same temperature, with as little variation as possible. While the saponification advances gradually, we shall perceive, after an hour, some fat floating on the surface, like a film of oil, and at the same time the soapy granulation falling to the bottom. We must then add the second portion of the lye; whereon the granulation immediately disappears and the paste is formed. After conducting this operation during four hours, the paste becomes so stiff and compact that it cannot be stirred; and must then be lightly beaten. At this time the capsule must be transferred from the sand bath into a basin of water and allowed to cool very slowly. The soap, though completely made, has yet no pearly appearance. This physical property is developed only by pounding it strongly in a marble mortar; whereby all its particles, which seemed previously separated, combine to form a homogeneous paste. The perfume given to it is always essence of bitter almonds; on which account the soap is called almond cream, *creme d'amandes*.

Castile Soap.

Real castile soap is composed of soda 9 parts, oily fat 76·5 and water 14·5; but it is not made by these proportions of ingredients, because of the alkali employed being in an impure state. Thus supposing common barilla be used, it will in all probability require half as much weight of barilla as the fat required. For the white curd soap it may require one-third part by weight of crude alkali, and as this seldom contains more than 20 per cent. of real pure soda, it reduces the quantity of alkali in the soap, when complete, to from 6 to 10 per cent.

English Imitation of Castile Soap.

Soda 10 parts, oily fat 75, water, &c., 14·3. It is seen that this contains rather more alkali than the former.

Marine Soap.

This soap possesses the peculiar property of forming a good lather with sea water; hence its name. It is made by boiling together soda lye with cocoanut oil. It contains an immense quantity of water; its composition when complete being soda 4·5, oil 22, water 73·5 in every hundred parts.

The Sting of a Locust.

Near Westchester, Pa., last week, a young man named Hamorton. was severely stung on the hand by a young locust, in consequence of which the arm soon became much swollen up to the shoulder, attended with considerable pain. The general impression seems to be that the locust has no sting. The female, nevertheless, has a spiral sting, and some deaths have been ascribed to wounds inflicted by it.—[U. S. Gazette.

[Dr. Smith denies that locusts are in the least dangerous.

A Simple Way to Make Hydrogen Gas.

Messrs. Editors—For the benefit of your numerous readers, knowing them to be scientific and practical men, I would say, a cylinder of any dimensions, made of zinc, with copper wire, well insulated, coiled loosely around it, and one end soldered to the zinc, the whole immersed in water slightly acidulated with sulphuric acid, will evolve hydrogen gas in great abundancce, which, if passed through turpentine or benzole, will burn very brilliantly,—it is a cheap expedient and easily tried.

Boston, Mass. T. B. R.

We see the mechanics of Lafayette, Ind., are making efforts to resuscitate their Institute. We say, "gentlemen, never say fail."