

## MISCELLANEOUS.

Fair of the American Institute.

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## MISCELLANEOUS.

**Type-Casting Machine**—Green's New York and New Orleans Type Foundry: H. H. Green, 128 Fulton street, New York.—The principal intention of the inventor of this curious little machine has been to cast type under a powerful pressure, so that the letter formed may be a more exact and sharp counterpart of the matrice. The apparatus, which is placed on a stand so as to be conveniently worked by the hand, consists, in the first place, of a small furnace, in which a quantity of type metal is maintained in a molten state by a fire beneath, the fire door being at the side of the furnace. In the midst, and rising above the molten metal, is a force pump, intended to inject a small portion of the fluid metal into the moulding-box. To the pump is fixed a pipe running through the furnace so as to connect with a corresponding aperture in the moulding-box, when the latter is brought forward to the furnace to receive the metal. The moulding-box is made of steel, and the top of it moves on hinges so that it can be lifted up to set the matrice in its place. The matrice or die consists merely of a piece of copper, the shape of the type, and having the particular letter, which is to be cast, sunk into it. As in every description of type, it is only the size of the letter which differs, it follows that the copper matrice alone has to be shifted when it is required to cast a different letter. The moulding-box is made to slide between guides to and fro, and is moved forward to receive the metal by a cam fixed on a shaft, which is worked by hand. On approaching the force pump, motion is given to the plunger by levers acted on by the above-mentioned shaft, and sufficient metal to form a letter is thereby injected into the matrice. This latter operation is aided by a stop-valve, which prevents the flow of metal, and as the shaft withdraws from the furnace, it falls back and permits the injection of the metal as above described. During this operation the box is held together by a species of clamp or spring, a spiral spring then forces the box back, the hold of the clamp is relaxed, and a spring, acting on the newly-cast letter, loosens it so as to allow it to fall into a spout, and from there into a receiving box. The inventor estimates that this machine will cast, on an average, 175 letters per minute. The operation is altogether very unique, and is deserving of high commendation, we therefore willingly award our meed of praise to the inventor for the improvement that he has made in the work of type-casting.

The great benefit derived by this machine is, that it casts metal 10 per cent. harder than any in use, which insures the printer an article well worth his money.

**Protector Gas Meters**—J. Laidlaw, New York.—It is well-known that the Meter in general use is open to many objections, from which may be enumerated that it is not infallible, and that it can be tampered with to defeat the purpose for which it is intended. The patentee of the above-mentioned invention purposes to obviate these defects, his object being to guard the gas companies against fraud on the part of a dishonest consumer, and also to make the public certain that they receive the amount of gas for which they pay. The most common manner by which the gas companies were defrauded was by tilting the meter to one side, so that more gas was consumed than was actually registered. On the part of the consumer it was complained that it was in the power of the company, by altering the level of the water in the meter to make him pay for more gas than he had used. These proceedings are prevented by such an arrangement, chiefly in the disposition of the pipes, that all unfair attempts are useless or defeat their own object. The proper quantity of water is maintained by using a pipe, down which the water flows when too much is poured into the meter; this pipe leads the water into a lower chamber, where it is drawn off by a syphon to the outside of the meter, provision being made that the gas cannot force the water out. If the meter is tilted to one side it is still quite efficient, and if tilted forward, the gas is cut off and cannot act on the

drum, consequently the lights are extinguished. There is also a very handsome apparatus intended to test each meter before it leaves the hands of the maker or the gas company; this apparatus is on the principle of the gasometer, in fact it is a small one. There is a clock-faced index attached to it, which serves to check the accuracy of the meter.

**Self-Regulating Anti-Corrosive Gas Burner**—W. Mallerd, 170 Broadway, New York.—In addition to the usual mode of turning on the gas, a series of light flat valves is placed in the pipe near the burner to maintain a regular flow of gas. The anti-corrosive burner is made of a mixture of metals which are not specified.

**Patent Lathe**—Brown & White, Windsor Locks, Conn.—The peculiarity of this lathe lies in the mode of turning taper objects. The usual way to effect this is by shifting the tail-stock in a manner too well known to need description. In this lathe, however, the object is attained by placing a sort of bed or movable way on the lathe. The rest travels on the above way, which can be adjusted by a screw to any taper. It will be perceived that the idea is taken from a plan pursued in many lathes, of shifting the upper part of the slide rest when a similar object is in view. An engraving of this lathe will be found in Vol. 6, page 267, Scientific American.

## MANUFACTURES.

With respect to the manufactured articles exhibited at the Fair, particularly the woolen and cotton fabrics, there is not so great a show as might be anticipated; of the above two fabrics, there is more competition among manufacturers of the former than of the latter; what are exhibited are, however, good, and comprise the various kinds of cloth, from the heavy beaver to the superfine. Walcott & Sons, New York Mills, exhibit several specimens of cottonades good and substantial; Walcott, Oneida Co., N. Y., some very fine jeans, and there is also a specimen of superior calico from Whiterock, Nesmith & Co., agents. Of shawls there is a diversified collection from the Utica Globe Mills, printed by two different parties—Mason, of Mamaroneck, N. Y., and Duncan, of Essex Co., N. J.; we mention their names, as well as that of the manufacturing firm, because the specimens exhibited are more remarkable for the superiority of the designs than for the quality of their texture. Duncan & Cunningham, Essex Co., N. J., have on exhibition some good long shawls.

**Prints, &c.**—Of the common prints exhibited, those from the Fall River Works struck us as being among the best for quality, but were exceeded by others in beauty of design. There are also some good articles of this sort from Providence, R. I.

**Linen Thread**—Of this manufacture we only observed one collection from the works of the American Thread Co., Mechanicsville Saratoga Co., N. Y.

**Raw Silks and Cocoons**—Miss Harriet Sammy, Lancaster, Pa.—The samples exhibited are numerous and very gratifying, evidently showing that this branch of industry may be profitably carried on in America with proper attention. If we can only succeed, as is evident can be done from the specimens here exhibited, in rearing the silk worm, what a vista is opened for future manufactures. As a matter of course, by growing the raw silk we shall be independent of the foreigner, and also be enabled to supply the manufactured article at a vastly lower rate than would remunerate to make importations from Europe. As this is a vastly increasing trade, and causes a large drain of specie every year to pay for the manufactured silks imported, it is a subject of national importance to encourage the growth of the article. Although we are not in favor of bounties of any sort, yet we do think that this is one that ought to be encouraged.

**Woolen Hose**—Gardner, Boston.—The specimens exhibited are good and very fine, superior to anything that we have ever seen imported.

**Floss and Sewing Silk**—Ryle, Paterson, N. J.—Showing that we can manufacture as well as grow the real article.

**Hardware, Cutlery, &c.**—Of hardware there is a respectable show, the articles exhibited being of superior finish, and equal to anything from Sheffield; in one article we beat

them hollow, viz., locks; and there are several collections by various makers, all of which we cannot particularize, and it would be invidious, therefore, to give the names of one or two; we must leave our readers to examine and judge for themselves. We noticed, in this department, a collection of skates of every variety of form and shape to satisfy the most fastidious taste, made at Newark, N. J.; also fishing-hooks, percussion-caps, &c.

**Glass**—Of this article there is a fine collection on view from the works of the Brooklyn Glass Co., consisting of every description, both plain and ornamental as well as colored.

In furniture, the most novel article that we saw was a spring bedstead, by Mauritz & De-meure, Centre st. The novelty of this bedstead is in the bed-bottom consisting of a series of spiral springs, funnel-shaped, and supporting a net-work of springs that form the bed-bottom on which the mattress rests. By this means there is obtained an elastic spring-bed particularly agreeable in the summer season.

**Telescopes**—H. Fitz, 237 Fifth street, N. Y., exhibits an eight-inch aperture Achromatic Telescope, mounted on a new plan of cast-iron equatorial, furnished with a clock for keeping the object in the field, and circles of right ascension and declination of 6 inches diameter.

**Fusee for Blasting under Water**—Reynolds, Godwinville, N. Y.—This apparatus is composed of a coil of cotton twisted round the powder, with the outer string well tarred, so that the powder is fired before the water can penetrate.

**Sewing Machine**—Otis Avery, Honesdale, Pa.—In addition to Singer's Sewing Machine, which is constantly at work to the edification of the curious, the above new invention is also on exhibition; it consists simply of two needles, which are made to perforate the cloth from opposite sides, and in doing this they pass threads through in such a manner that they become locked together in the form of a chain, the garment, as it is sewed, being drawn along by means of a string with a weight attached at the end. The construction is very simple, and easily adapts itself to the work

**Stoves, &c.**—Of these articles, there is a large collection on view, particularly of open grates of every variety; accompanying one of the latter we noticed a chimney-piece of white marble of exquisite workmanship, from Kennedy's Marble Works, 23rd street, New York.

**Grates, Fender, &c.**—W. & N. Jackson & Sons, 238 Front street and 891 Broadway.—There is a very choice collection of these articles from the manufactures of the above-named firms. The grates and fenders, ornamented with silver, glass, gold, and colors, from the purest white to the deepest black, are all that can be desired by the most fastidious. There is also on view a various collection of Summer Pieces, from unique original designs, exceeding anything that we have ever seen of the kind.

**Pianos**—In these articles we noticed something quite new. There are two or three varieties of the Æolian Pianoforte, and also an iron pianoforte, Firth, Pond & Co., Franklin Square, New York.—This latter instrument has the outer framing of iron, so that it is not so liable to injury, and is cased inside with wood so that the tone is not injured by the use of the metal. We will say more upon this subject next week.

**Cast Steel**—Andironac Co., Jersey City.—The specimens exhibited of the steel made by the above-named company, are excellent and deserving of commendation.

**Leather**—We saw but two specimens of leather on exhibition at the Fair—one of dyed skins (bronze and other colors) from the Waterbury Leather Co.; and the other, specimens of calf-skin tanned in a new manner, the discovery of Prof. A. K. Eaton. We examined the leather attentively, and it appeared to us to possess all the necessary requisites of good leather, but so many processes have turned out failures that we are skeptical upon any new process until it has been well tested. It is worthy of remark that the manufacture of leather has been less advanced by the application of chemical science than any other of the arts, and yet the art of tanning leather is better understood now than it ever was be-

fore, but so many physical conditions are involved in the production of good leather, that scientific processes have been unable to satisfy them all.

The skins by this process are unhaired without lime or sweating, as we have been informed, so that there is no unequal action on the thick and thin parts. On the 10th of last August, Prof. Eaton received a patent for the use of sulphate of potash in the tan liquor, and some excellent practical tanners have certified to its usefulness. One calf-skin which we examined, was tanned in 8 days, and appeared to be as well tanned as any skin that we ever saw.

## ANNIVERSARY ADDRESS—CATTLE SHOW.

**Anniversary Address**—The Anniversary Address of the American Institute was delivered at Metropolitan Hall, on the 21st inst. by the Hon. James Dixon, and on the following day the prizes for the best cattle were awarded by the Judges at Madison Cottage. The orator in his address alluded to the extraordinary increase of New York since the Independence, than what was before that period a provincial town, has now become one of the great central points of universal commerce, and rivals the old marts of European trade.

Having dwelt upon the agricultural, commercial, manufacturing, and mercantile, resources of the country, the honorable gentleman said that it was not without reason that the heart of the whole nation exulted in every exhibition of the naval superiority of this metropolis, where her vessels out-sail those of England. It is an American triumph, and when one of her merchant princes despatches a fleet to penetrate the frost-bound regions of the frigid zone, and through the wintry night, on which for months no morning breaks—while the true heart of the hopeful English wife accompanies the stars in their unceasing vigils to search, amid polar ice and eternal snows, with superhuman endurance, for the long-lost British Admiral and his imprisoned ships, it is American benevolence that wakes the plaudits of the world. (Great applause.)

He concluded by paying a well-deserved eulogium to the late Mr. Downing. Politically, the address was in favor of protection.

**Cattle Show**—We have attended the exhibition of cattle, &c., held at Madison Cottage, and are gratified at finding the spirit displayed by our agriculturists and farmers. There was a very good show of every description of cattle, horses, oxen, sheep, swine, and of poultry. Among the cattle we observed some fine Durham, Devon, and Ayrshire, bulls, cows, and calves, a cross with such sorts cannot fail to improve our stock. We likewise observed among the sheep several specimens of Merino, Leicester, South Down, &c., imported from Europe, and also among the hogs like improvements, we mean with regard to purity of breed, a subject of vast importance to farmers, for unless they cross the common stock with other breeds they cannot expect to improve it.

Of the bulls, the finest were Backwoodsman, a Durham bull weighing 2,325 lbs. owned by S. F. Taber, Chestnut Ridge; May-Boy, Devon breed, belonging to W. P. & C. S. Wainwright, Dutchess Co., N. Y.; and Prince Albert, ditto, owned by W. L. Cowles, Farmington, Conn. There were also several excellent specimens from Ayrshire, including seven bulls, three cows, and six heifers, imported by Mr. Watson. The show of native cattle was also good, and comprised some superior animals. There was likewise a considerable number of horses, among which were exhibited as competitors some superior thorough bred animals, the first premium in this department was awarded to Mr. C. T. Howell, Astoria, for the best stallion 4 years old. The best cow (native) belonged to R. R. Morris. In addition to the cattle there was a respectable show of poultry, turkeys, &c., common and fancy.

**Atkin's Reaper**—This new reaping machine was exhibited on the ground, and in one respect is superior to its competitors at the Fair, we mean in the arrangement of a rake attached to the reaper called the "Automaton Rake." The reaper cuts in the same manner as others with the Hussey knife, the novelty consisting in the rake. This latter sweeps

the bed where the fallen grain is deposited, presses it against a toothed plate, and both holding firmly the bundle of grain thus collected, swing round behind, and drop their contents in a neat bunch upon the ground. The weight of the raker is 150 lbs., and it is removed by unscrewing two bolts. Whole weight of machine 1,245 lbs.

**Machines at the Fair which have been Illustrated in the Scientific American.**

The following is a list, with the names attached, of the machines now on exhibition at the Fair of the American Institute, and which have been illustrated in various volumes of the Scientific American. It is evidence and proof of our common assertion, "The Scientific American is the Repertory of American Inventions:—"

1. Mortising Machine, Fay's, Vol. 1, No. 14.
2. Mortising Machine, Otis', Vol. 2, page 41.
3. Mortising Machine, Chandler's, Vol. 3, No. 48.
4. Planing Machine, Woodworth, Vol. 2, page 407.
5. Drawing-board, Chamberlain's, Vol. 3, page 9.
6. Planing Machine, Daniel's, Vol. 4, page 52.
7. Meat Cutter, J. G. Perry, Vol. 4, page 385.
8. Anti-friction Press, Dick's, Vol. 5, page 220.
9. Brick Press, Wagner & Imley's, Vol. 5, page 401.
10. Straw Cutter, Bertholf's, Vol. 5, page 52.
11. Smit Machine, Harris', Vol. 5, page 385.
12. Educational Tables, Allen's, Vol. 5, page 161.
13. Patent Spring Chair, Warren's, Vol. 6, page 76.
14. Sash Balance, H. C. Brown, Vol. 6, page 332.
15. Self-Rocking Cradle, D. Walker, Vol. 6, page 349.
16. Artificial Leech, Thomas', Vol. 6, page 369.
17. Metal Railroad Car, T. Warren, Vol. 6, page 388.
18. Tuyere, Porter's, Vol. 6, page 408.
19. Clothes Dryer, Buckman, Vol. 6, page 362.
20. Lathe, White's, Vol. 7, page 86.
21. Submarine Explorer, Alexander's, Vol. 7, page 81.
22. Sewing Machine, Singer's, Vol. 7, page 49.
23. Drill, Bushnell's, Vol. 7, page 33.
24. Brake, Railroad, Stevens', Vol. 7, page 132.
25. Bridge, Aerial, Houghton's, Vol. 7, page 169.
26. Gold Separator, Buffum's, Vol. 7, page 56.
27. Car Ventilator, Paine's, Vol. 7, page 244.
28. Iron Fence, Wickersham's, Vol. 7, page 233.
29. Spinning Frame, Brundreth's, Vol. 7, page 361.
30. Blind Hinge, Barker's, Vol. 7, page 292.
31. Gas Generator, Gee's, Vol. 7, page 353.
32. Quartz Pulverizer, Cochran's, Vol. 7, page 364.
33. Car Seat, Buel's, Vol. 7, page 356.
34. Straw Cutter, Taylor, Thomas, & Co., Vol. 7, page 372.
35. Gold Separator, Gardner's, Vol. 7, page 393.
36. Gold Separator, Barclay's, Vol. 7, page 401.
37. Punching Machine, Sanford's, Vol. 8, page 20.

The line of travel along the whole lake shore, from Erie to Cleveland, Ohio, will be completed and in full operation by the first of November, so that the obstruction hitherto experienced in the winter season from the closing of the lake will not be felt in the coming winter.

The Canadian Government has given official notice that should it be required, a horse-police force may be established along the line of the Quebec and Richmond Railway, for the preservation of the public peace, and to prevent injury to the works.

**British Association for the Advancement of Science.**

(Continued from page 27.)

**OPTICS.**—Sir David Brewster delivered a series of three discourses, devoted to an examination of Professor Dove's theory of lustre, a description of a new and simple polariscope, of which Sir David displayed chalk drawings on the board of the lecture-room, and whose great merit, he stated, was its extreme simplicity, and whose chief use was to measure a great degree of polarization of light. On some new phenomena of defraction, Sir David recapitulated the experiments of several scientific observers, among the rest Prof. Stokes, whose theory he canvassed, and in several respects differed from. With regard to the screw-like appearance of rays observed under certain circumstances, Sir David attributed them to the fact of the internal fringes expanding away among the external ones. He observed, with regard to the crossing of rays in some telescopes, it had been observed in some experiments that these telescopes in which this was the case possessed more power than those in which the rays did not cross in the proportion of 10 to 6½—an enormous difference—from which it was reasonable to deduce that there must be some effect produced by the rays of light crossing each other. He had suggested to his friend Lord Rosse the use of concave lenses to determine this, instead of convex lenses, as in concave lenses the rays never come to a focus, but only on the retina. Sir David then referred to other series of effects regarding defraction, communicated in a paper read on the 3d January, 1842, but never published by the author.

**SEWED MUSLIN MANUFACTURE IN IRELAND.**—The sewed muslin trade was first introduced into Ireland between the years 1800 and 1810, but it generally made little progress until the decennial period 1820 to 1830, the employment being comparatively limited in extent, and the manufacturers confining their productions to a few articles, such as collars, trimmings, robes, and baby linens.

One of the circumstances which first gave a decided impulse to this manufacture was the introduction of machinery for spinning linen yarn, which had formerly been spun exclusively by the hand. This change left the females of Ireland almost without any source of employment. Under these trying circumstances the women and girls of the country anxiously availed themselves of the means of obtaining a livelihood by working at embroidery; and although a partial prejudice existed against it at first, it soon became quite evident that it would ultimately more than compensate for the loss of their former occupation.

Few changes tended to benefit the trade more than the introduction of lithographic printing (about the years 1830 to 1835), instead of the former tedious and expensive system of block printing. Each block cost from 3s. 6d. for the cheapest to £6 and £7 for the more expensive patterns, besides the delay of from one to three weeks for cutting them. Now, any pattern may be designed, drawn, and printed in a few hours, in endless varieties of style, at the cost of as many shillings as they formerly cost pounds. One great disadvantage under which manufacturers in Belfast formerly labored was the difficulty of selling their goods in a finished state at a profit; a prejudice existed, on the part of the buyers, against Irish goods, and so far was this feeling carried out that they were almost excluded from the London market, owing to the very low prices obtained there. From this cause their productions were mostly sold in a grey or unbleached state to the Glasgow manufacturers, who afterwards bleached and resold them in a finished state; but about the year 1840, several additional persons commenced the trade in Belfast, who bleached and finished their goods as done in Glasgow.—This course has at length happily resulted in the removal of all prejudice against Irish goods, and since the fact has become known that about nineteen-twentieths of the goods sold in Glasgow are manufactured in Ireland, and the rapidly improving quality and value of Irish goods have been thoroughly tested, home and foreign buyers visit Belfast, to make purchases, as frequently as they go to Glasgow for that purpose; and the in-

creasing demand for these goods, seconded by the additional skill of the workers, has, at length, opened a fair field for the Belfast manufacturers; and they are now enabled to introduce the once costly articles of their production into almost every market, at such prices, and in such variety, as cannot fail to lead to an enlarged consumption, and, consequently, a still further increase in the trade. No branch of manufacture in this kingdom has made such rapid progress during the last fifteen years, or has afforded more valuable employment. In Ulster, and westwards, the embroidery trade has become almost universal, and is at present giving more or less employment to a quarter of a million of individuals.

The wages paid for working vary in amount, depending in some degree on the prosperity of the trade or otherwise. Young and inexperienced workers cannot earn more than 6d. to 1s. per week, while the more expert and experienced worker will earn 4s. to 5s., and 6s. per week; and a few first-class hands can occasionally earn 10s. per week. The amount annually paid for labor alone, exclusive of materials, may be with safety estimated at £500,000 to £600,000, which is distributed in a shape the most useful and beneficial to the happiness of a people, the females being almost invariably employed in their own homes under the eyes of their parents and friends, and they can thus obtain a livelihood by their own industry without endangering their morals.

A great deal of good has latterly been effected through establishing training schools in the several localities where the work is being newly introduced. Competent teachers are employed to instruct beginners, who retain the pupils under their control until they are able to pronounce them as fit workers of a first or second class rate. These schools have generally been opened under the patronage and support of the landed proprietors in the neighborhood, among whom may be mentioned the Countess of Enniskillen, as one of the foremost in this good work, by whose philanthropy schools were opened on an extensive scale, at Florence Court, under the superintendence of a paid teacher, and several other females whom her Ladyship had previously sent to and maintained at Belfast, where they received instruction and prepared to impart it to others; and it may be mentioned here as an instance of the success attending that lady's praiseworthy endeavors to benefit the condition and increase the comforts of the humbler classes of society by their own industry, that now, after the lapse of three years, the trade is so well established in the district of Enniskillen, that above £400 is weekly paid in that town, for work done by the females of the surrounding neighborhood.

In conclusion (notwithstanding hostile tariffs), the beauty and cheapness of Irish embroidery have become pretty generally known, and it is steadily increasing in sale, even in the most exclusive of continental countries. In France, where by law they are totally inadmissible, they are, nevertheless, daily introduced, and one particular class of work finds extensive favor in the fashionable circles of Paris; so that with a home market, extended foreign relations, and all the other facilities of commerce, the embroidery trade may reasonably expect not only to maintain its position, but look forward to an increase and prosperity hitherto unknown.

The Rev. Dr. Edgar addressed the section at some length on the progress of the trade. The article had been at first one of luxury, yet from the time it was first introduced up to the present it had rapidly increased, for it contained the means of its own support; if it had depended on a single patron it would not have lived a day. He entered at some length into the statistics of its progress in Connaught, stating the means adopted to promote its extension, and the excellent effects in a social sense which attended its development there, adding the beneficial circumstances which arose from its introduction in the west, religiously considered.

An interesting conversation arose, in which the Archbishop of Dublin and other members of the section took part, in the course of which several questions were put to Mr. Holden, who stated, in reply, that they were in-

debted to the Scotch for having introduced the sewed muslin trade in this country, and they were the parties still who gave the greatest amount of employment to the Irish. On principle, he believed that the Copyright of Designs Act of Sir Emerson Tennent was very valuable, but the vast increase of the trade had induced them to look out for more speedy means than before, of supplying a greater variety of patterns to be quickly used, and the consequence was that advantage was not taken of that law. As to the result that had arisen from the great exhibition of 1851, he stated that there were several instances in which he had got orders from Germany and Spain; and not only, in his opinion, had the Exhibition given the trade a favorable position, but it had brought the Irish work into that notice which they wished it to obtain; concluding by quoting the feeling of the Duke of Wellington, that to teach the people of Ireland habits of industry was the best thing that could be done to make them comfortable and happy.

[The above condensed extract we publish as a subject of great interest, and it is one respecting which the great mass of the people are not well informed. They are led astray by the fusilades or partisan editors, who pretend to a knowledge which they, to their shame, do not seem to possess. Many of the fine sewed linen collars and handkerchiefs which are sold in New York for French work are of Irish manufacture.]

**STEAMSHIP BUILDING ON THE CLYDE.**—Dr. Strang, of Glasgow, read an interesting paper on steamship building on the river Clyde in Scotland. The west of Scotland, during the past 50 years, is much indebted to steamboat and marine engine building for its prosperity. It was there where steam navigation in Europe originated, and where steamboats to navigate the seas were first built and established. When Dr. Strang was reading his paper, he said, it is just 40 years, this moment, since the first successful steamboat, the tiny "Comet," of Henry Bell, made its trial trip on the Clyde. It was only 30 tons burden, and its engine was only of three horse-power.

During the past seven years, there were built on the river Clyde 14 vessels of wooden hulls, and 233 of iron hulls, in all, 247. Of these, 141 were built with paddle wheels, and 106 had screw propellers. The tonnage of the wooden steamers amounted to 18,331 tons and the iron vessels to 129,273 tons. The horse-power of the engines for the wooden vessels was 6,739; the horse-power for the iron vessels was 31,593. There were engines built for vessels not constructed on the Clyde of 9,434 horse-power, making a total of 247 vessels built, of 147,604 tons, and engines of 47,766 horse-power. The average tonnage of these vessels amounted to about 598 tons. Thus, in the course of seven years, on one river, there was built a fleet of no less than 247 steamers, each averaging nearly 600 tons burden. It seems, also, that iron is the principal material used for building the hulls, and the screw is more patronized than the paddle. During the present year, 1852, there have been built, or are building, on the Clyde, 73 steamers, only 4 of which are of wood, the rest iron, and 43 are screws, and only 30 with paddle wheels. On the Clyde there is in daily use 5 large dredging steamboats, capable of dredging 18 feet deep, and these machines have deepened the Clyde from 10 feet average depth to 17 feet. To construct steamboats with wooden hulls costs £14 per ton; iron hulls £12 (\$56 20 cts.) per ton. The first Cunard steamships cost £50,000 each, the new one Arabia will cost £110,000. These statistics will be interesting to engineers.—We had thought that New York stood without an equal for steamship building, we have not the statistics on hand at present, but if they come up anything near those of the river Clyde, we shall be most agreeably surprised.

(To be Continued.)

**New Locomotive.**

The Camden and Amboy Railroad Company have placed upon their road a fine locomotive, constructed at Bordentown, on a new and somewhat unique principle. The smoke-pipe is formed in such a manner that it can be turned in any way according to the variations of the wind.