Scientific American.

Scientific American.

NEW-YORK, OCTOBER 13, 1855.

Water for Cities.

A plentiful supply of good wholesome water is just as necessary for the health of individuals and families, in city and country, as a bountiful supply of pure air. In many places, however, it becomes an expensive matter to obtain a sufficient quantity of it, but however great the expenses may be, these must and should be incurred. Unlike a certain kind of food which may become scarce, and its place supplied by another kind, no substitute for watter can ever be invented or discovered. It forms three-fourths of the weight of our bodies, and the food of our daily meals, and without plenty of it, there can neither be health, cleanliness, nor cheerfulness, in any family or community. In villages where the houses are scattered widely apart, wells in the earth, or cisterns of filtered rain water, are generally found sufficient for the supply of the people; but these become inadequate to fulfill the sanatory conditions of life, when street after street becomes packed with huge buildings, and a dense population; hence some other mode of supply becomes imperative.

At the present moment, various cities and villages in our country seem to be sensibly agitated with regard to procuring supplies of good water. We have now before us a neport upon a supply of water for Baltimore, by G. H. Bryson, C. E., and two keen pamphlets, controversial in their character, on providing water for the city of Brooklyn. Beside these, we have lately received letters from various correspondents in relation to supplying certain villages with water.

It is certainly very desirable to know what is the cheapest method of supplying a city with ter from a low to a high level for distribution. fiber, and resembles flax in appearance. Paper the only great items of expense; to these ex- "of what substance can it be made cheapter has to be raised from a low to a high level. us by our correspondent, and it would be well ber was too imposing for this task. But for all these expenses, many cities are thus if the ingenuity of our inventors were directed supplied, both at home and abroad. This is to improvements in processes and machinery English ones—and there were quite a number the case with Philadelphia, Pa., Jersey City, for making new fabrics out of new materials, of of both—exhibited superiority both in con-N. J., Chicago, Ill., and Cleveland, Ohio, all of which, no doubt, many might be profitably cul-struction and finish. This surprised us not a but it will be some days before order and syswhich find it for their interests and welfare thus | tivated, or gathered wild, in various parts of little, as we did not expect to find such engito supply themselves. Steam is the power, our country. Cotton, silk, wool, and flax may neering excellence in France, especially Exhibition will be kept open during the entire used, and Cornish engines are employed in all be said to constitute all the raw materials used when compared with the parent country of month, and next week we shall devote considof these cities, with the exception of Philadel- in our textile manufactures. In the name of the locomotive; but when we remembered that erable space to the subject, and continue it phia, which uses both water power and a Corn- "progressive improvement" let us have a little M. Seguin, of the St. Etienne Railway, first ish pumping engine—the former being derived more variety than the four substances named. greatly increased the heating surface by his from the Schuylkill river, acting upon im- Cotton and flax are both vegetable substances, tubular locomotive boilers, patented in 1828, mense wheels; the latter being the latest but the fabrics produced from them are entire- and that M. Pelletan early applied the steam introduction, and found, as we are informed, to ly different in character. We are confident jet to increase the draft of the fire, we could be the most economical. The city of Glasgow, that a dozen substances-differing as much not but admit that too little credit has been advertisers speak of its merits. in Britain, once supplied by water pumped from one other-might be obtained from sea given to France for what she has done to imwith Cornish engines from a distance of three and land grasses, and the bark of trees, to pro- prove the steam engine. The French locomomiles, has found it to be more economical to duce as many different fabrics, all of which tives did not appear to be any better than the of twelve miles. These two facts are worthy great variety of tastes prevailing. of consideration by all cities which are seeking greater supplies of water. The city of Baltimore is fortunate in being able to obtain sian Government has purchased the above fire those of France, with respect to combining a large supply of water by gravitation; the arms-100,000 old U.S. muskets, we believe beauty with usefulness in designing machinery. city of Brooklyn has not the like sources of | -and that the same are now in process of alsupply. The Croton water might be conduct- teration into semi-Minie rifles at Colt's estab- thusiasts, and perhaps in greater numbers. large pipes, the one to be a safeguard in case that the chief belligerent parties in the present | M. Paschal, propelled with steam, smoke, and as too hazardous.

city with half a million of inhabitants; if large quantity of other arms. Extensive ad- is taken to mingle with the heated air and prothis is so, the citizens of Brooklyn should do ditions have been made to their works by the ducts of combustion of the furnace, thence into something more for obtaining that supply than erection of new buildings, and if the war conmerely making one or two surveys, and expending column after column of ink, year after year, as they have been doing on the subject. The engineering appliances are at hand, ready and able to execute their wishes successfully; it is for them to call them into action.

than the public wells.

F ee Night Schools.

Free Schools during two hours of five evenings every week are now open in New York and Brooklyn, and will continue for three months. Their object is to afford the means of a better education to young men and women who are engaged at work during the day, and who, from circumstances beyond their control have been compelled to work for a living before they acquired the rudiments of a common education. No young person in this community can plead inability in obtaining a good common education, for the means to obtain such are providedforall. We regret to say, however, that too many young persons, at least those who are, in a measure, their own masters during evening hours, have no honorable ambition to acquire a good and solid education,—hence such noble institutions as Free Schools have less attraction for them than theatres, ball-rooms, and places of amusement. It is also true that those who toil severely all than study during spare hours; and this is the case more especially with the most ignorant, the very ones who most require a better education. We therefore hope that all those who employ young persons of a very limited education will use their influence in exhorting them to attend these schools. The teachers of Evening Schools, we hope, will remember that cheerfulness and kindness, so as to win the attention and affection of their scholars. We hope the master-mechanics will urge upon their apprentices and the young men in their employ the benefits to be obtained from attending these schools. We have known several mechanics who have arisen to distinction for great knowledge, and who had no other means of acquiring an education but by Evening Schools.

New Paper Material.

A correspondent has sent us some samples of conduct water by gravitation from a distance would find a sale in the market, owing to the English ones, but while they exhibited as much

The Famous George Law Muskets.

n enterprise, by many, has been looked upon ford, Conn., to obtain their best arms. Messrs. noise in Paris as the Ericsson did in New York. tinues, further extensions will be made.

> pleted, the largest and most magnificent vessel its admirers and advocates, and never will. of hold thirty-three feet; breadth of beam fifty. made.

Reminiscences of the Paris Industrial Exhibition.

engines, and that their number is very limited the World's Fair in London in 1851, so at the hibition impressed us favorably, both with re- must have done good, for those who witnessed style of execution. The favorite and most com- and it will not be forgotten how these were day long, naturally seek for amusement rather on exhibition, and one of 30 horse power, as a alike, massive and beautiful. There were huge their instructions should be blended with great | country. One from Holland, by M. Cail, was | steel tires for locomotive wheels 15 feet in dijustly admired for its workmanship, and gave ameter. The wheel adopted on all the French water. Happy, let us say, is that city which a wild plant obtained in Maine, which he con- of this class were exhibited, but the most unique, pared to see such masses of iron forged into can obtain an abundant supply—even although siders might be profitably used as a substitute for the purpose of insuring a smoothmotion, was wheels, beams, and plates, but the Titan power the distance be considerable—by gravitation, for rags in the manufacture of paper. The a small engine having three cylinders with their of steam is equal to the task. Those on exhifor it is indeed an expensive matter to force wa- samples sent us are very long and strong in the piston rods so yoked as to overcome all the bition were worth a voyage across the Atlandifficulty of dead points. Three cylinder en-Where water is supplied naturally from an el- can be made of almost any vegetable substance, gines are not new, nor are they commendable, evation, the dams, reservoirs, and conduits are but the simple question is one of economy, viz., as two cylinders can accomplish the same objects with sufficient accuracy, and are Crystal Palace, as previously announced, but penses must be added the engines, and the est?" We have no doubt but beautiful thread certainly much cheaper. We did not attempt the articles were so illy arranged, we conmeans of continually working them, when wa- and cloth could be made from the material sent to count all the engines exhibited; their num-

The French locomotives in contrast with the power, they displayed a greater artistic finish and beauty of design. Both English and We learn from good authority that the Rus- American engineers might learn a lesson from

France, like all other countries, has her ened from Manhattan to Long Island by two lishment, Hartford, Conn. It is a singular fact. We thought so while looking at an engine by of danger in the river, to the other; but such European war have come to the city of Hart, hot air, and which has made nearly as much Robbins & Lawrence are turning out over Air is forced in small jets through an annular It is asserted that plenty of water can easi- 1000 rifles per month for the Sharp's Rifle Co., furnace, surrounded with water on the outside, ly be collected on Long Island to supply a of that place, on an English contract, besides a where the steam is formed, and from which it ing cylinder itself is also heated by a grate, but all the other parts of the engine are the from different Post Offices. The cash will be The steamship Adriatic, now being built for same as those in common use. Its results, so paid to the order of the successful competitor the Collins line of steamers, will be, when com- far, have not come up to the anticipations of immediately after the 1st of January, 1856. afloat. She will measure five thousand six It, however, shows that the French engineers for subscriptions. Post-pay all letters, and di-It is a shame that a city like Brooklynshould hundred tuns; her length will be three hun- are not of the stand-still order. Without such rect to have no better means of a general water supply | dredand forty-five feet on the broad line; depth | experiments no improvements could ever be

IRON AND STEEL-The display of iron and STEAM ENGINES—Many persons suppose that steel manufactures greatly interested us, more the French people know but little about steam especially the productions of Prussia. As at in France. This is a mistaken idea, for steam | Great Exhibition in Paris, 1855, M. Krupp, of engines of remarkable beauty, and in great Berlin, Prussia, made by far the finest display, numbers, are made and used in that country. surpassing both the French and English steel While in Paris, those exposed in the grand Ex- and iron makers. The Exhibition in London gard to the simplicity of their character, and it have confessed that M. Krupp has improved the highly cultivated taste displayed in their upon his samples of fine steel there exhibited, mon steam engine used in France is the double admired and spoken of. His iron books, with horizontal kind, that is, two cylinders yoked at leaves thin as paper were described as the most right angles to one shaft. They are mostly low wonderful achievement in the science of iron pressure and condensing; the pumps and con- making. We must confess that it was impossible denser are placed below, and are worked by to ascertain whether France, Germany, or Engeccentrics from the main shaft, and thus they land occupied the first place for iron products, are very compact. The engines of the river so far, however, as it relates to commercial boats are of this construction, and a number of utility—cheapness of product—England surthese were on exhibition, but not a single large passes all the others, but the products of each marine one. Some small ones, however, were —taking a general view of them—were nearly working model, by Tod & McGreggor, of Glas- iron rails 60 feet long, and iron girders of gow, Scotland, of the steeple class, was well equal length. There were iron plates for the made, but we did not like it; we prefer greater new French gun boats, 30 feet long, 6 feet wide, simplicity, such as is now attained in the ma- and 4 inches thick, made by M. Cave & Co., rine engines built in New York. M. Gache, of and intended to knock down with impunity the Nantes, exhibited a double horizontal river granite walls of fort and citadel. There were boat engine, and so did M. Creusot, the larg- also displayed sheets of iron 30 feet long, and est maker of this class of engines in the as many wide, and M. Petin & Co., displayed evidence of the mechanical skill of the genuine | lines of railroads is composed of a corrugated Dutch. An engine from Birmingham, England, steel disk bound to a steel tire, and a solid hub gained more notice for its elaborate finishing pierced for the axle. These are stated to be than most of those exhibited, but it did not cheaper and stronger than any other kind—the show such harmony of proportion and skill- cheapness having reference to durability. One ful arrangement of parts as those made in large wheel 18 feet in diameter, forged wholly France. All the large engines for factories in of iron-nave, felly, and spokes,-exhibited France have double cylinders, and are said to by a M. Gouin, attracted much attention for insure perfect steadiness and regularity in its huge proportions, and the massive maworking the machinery. Some very large ones chinery required to forge it. We were not pretic to behold.

> Fair of the American Institute This exhibition opened on the 4th, at the cluded it best to defer our remarks on the merits or demerits of the products displayed until

> There is a good prospect that the Fair this year will be the best the Institute has ever had, tem prevails throughout the building. The from week to week till the Fair closes.

> Carpenter's Rotary Pump is advertised in another column. It is a good one. Reader, just refer to the pungent manner in which the

> An article on the encroachments of the Pat ent Office by the Secretary of the Interior, prepared for this number, is unavoidably crowded out. It will appear next week.

SPLENDID CASH PRIZES!

The proprietors of the Scientific American will pay in cash the following splendid prizes for the fourteen largest list of subscribers sent in between the present time and the 1st of January, 1856: to wit:

uary, 1000, to with					
For the largest List	-	-		\$100	
For the 2d largest List •	-		-	•	75
For the 3d largest List •	-		-		65
For the 4th largest List	-	-	-		55
For the 5th largest List		-	-		50
For the 6th largest List	-			-	45
For the 7th largest List	-	-		-	40
For the 8th largest List	-			-	35
For the 9th largest List	-	-		-	30
Eor the 10th largest List		-	-	-	25
For the 11th largest List	_	-	-	-	20
For the 12th largest List	-	-	-		15
For the 13th largest List	-				10
For the 14th largest List	-				5

Names can be sent in at different times, and Southern, Western, and Canada money taken

MUNN & CO., 128 Fulton st., New York. See prospectus on the last page.