For the Daily Pennsylvanian.

## Hereditary Offices.

*"None dre--and few resign."*

MESSRS. EDITORS:—It may not be deemed singular that I am one of those old fashioned republicans, who regard a rotation in office as indicative of a disposition to preserve the purity and freedom of our institutions from the reprehensible custom which characterises the tenure of office among monarchical forms of government. The illustrious Washington himself, was foremost in the expressions of his sentiments of disapprobation of a hereditary tenure of place, which it is well known leads too often to abuse and corruption, and is frequently subversive of those dear bought principles for which our venerated forefathers so nobly contended during that momentous period—which laid the foundation of our "virtue, liberty and independence." In fact there should be no such thing among us, as an *hereditary office;* and consequently, in the needed *reform* which our new City government have promised, it is earnestly to be desired that particular care will be exercised in the selection of faithful and efficient officers to conduct the several heads of the Department organized by the City Councils, who shall be in every respect free from this charge. In making this allusion, no reference is intended to those who hold tenure for the first time under the present City government, although in the hasty organization of several of the Departments, several individuals managed by their adroit political manœuveres not only to retain place, but in some instances succeed in promoting themselves to other and more lucrative positions, from which it is time they were ousted, and individuals chosen instead, who are in every respect equal in point of capacity, and much better entitled to the positions which these *place-men* fill. This doctrine will hold good among Whigs, Democrats, and Know-Nothings. It is idle to suppose for an instant, that the whole generation of an individual shall retain office, simply because some fancied merits characterised the deceased progenitor, and for which he was amply remunerated—that could have been done by others equally as well as himself, had the opportunity presented itself.

These preliminary events induces us to point out a few office holders, for whom personally we entertain a kind regard, but who appear to cling with a desperate pertinacity to the several situations which they now hold by *ancient usages*, particularly as their retention would be much "more honored in the breach than in the observance." The recent wordy message of the Mayor has already deprecated the number of the Departments, several of which he states, could be merged into one—and in pursuance of his suggestions I hope that the present Councils will carry out the *reform* therein indicated, which so far as the sincerity of the *Honorable* official is concerned, means little or nothing. To begin then:—Our *City Commissioner* has held office, until he has actually grown grey in the service of the Municipal government. The change so far as he is concerned, is too plainly indicated to require any comment. He *retires, beyond doubt*, upon his *well earned laurels*. That however, of the Superintendent of the Water Works is deserving of especial notice. The Graeff family have held this post from time *immemorial*, It is strongly hinted that the "Know-Nothings" intend to fling the present Superintendent for his commendable obstinacy last year, in which he refused to bow down to their mandates. He, it is alleged, openly despises the "Order," and consequently will not receive their support at the forthcoming election. Never mind, he will receive the suffrages of those who entertain the same views as himself of this secret proscriptive association. This is well enough, so far as it goes; but I cannot assent to the propriety of his retention, particularly as it conflicts with my opposition to hereditary office. Let there be other applicants, (both honest and capable,) and from the number select a *new* Superintendent, who shall abide his day, and the rotation here inculcated. The salaries of this Department from the Chief, to the lowest subordinate, are entirely too high, and should be *razed* down to a fair compensation. The late Councils raised the Superintendent's and Register's salaries *five hundred dollars in one night!* This was a fearful jump—but as their doom (the Councils,) was fixed, they acted like desperate men, not only upon this, but other occasions. GEO. R. M'MAHON is another of the same class, and has grown both insolent and presumptuous.

The Commissioner of Highways (Mr. Birch,) has been fed at the municipal crib for many years, and it is time he was permitted to retire to his *otium cum dignitate*. There are strong indications that this will be accomplished, as he has rendered himself exceedingly obnoxious. In a word, it is earnestly desired that there should be a change among these "*old fogies*"—and a thorough reform instituted. Retrenchment should be the order of the day, and no life offices instituted by our people. I will, with your permission, refer to this matter again and more in detail. ARGUS.

We agree with our correspondent ARGUS in every suggestion made, except so far as it relates to Mr. GRAEFF. This gentleman is peculiarly fitted for the post he fills, and we doubt much whether his place could be filled with another person, without great detriment to the city. Mr. GRAEFF is a scientific gentleman, educated to the business which he now superintends, and as a plentiful and pure supply of water is among our first of wants, nothing should be done by Councils to put it in jeopardy.

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full of interest and attraction ...

## LOCAL AFFAIRS.

*A Seasonable Invention.*—Mr. Marshall, the lessee of the Walnut Street Theatre, has recently introduced into that establishment an apparatus invented by Mr. J. R. Barry, for cooling and ventilation, which will greatly add to the comfort and convenience of theatre goers, during the ensuing summer season. The apparatus was thoroughly tested on Saturday evening, with the most satisfactory results. The principle is similar to an apparatus exhibited by the same inventor, for cooling and ventilating railroad cars, which was inspected and approved by many at the last Franklin Institute exhibition. The apparatus consists mainly of a blower drawing in cold air from the street, refrigerating wheels, and an ice-box to cool it, with air tubes to properly diffuse it throughout the building. The fan case, refrigerating wheels, box and ice reservoir are all connected together in one continuous wooden box, the fan being at one end, and the ice reservoir at the other. The fan is four feet in diameter by three feet wide, and is driven by a steam engine at the rate of 400 revolutions the minute. There are three refrigerating wheels, three feet in diameter and three feet wide, rotating in a horizontal box, with partitions of unequal height coming up from the bottom, so that the wheels revolve in separate reservoirs, the one next the fan being in the shallowest, and the one next the ice-box in the deepest water. These wheels are simply a series of discs of galvanized iron, placed three-quarters of an inch apart, on shafts running through the sides of the box and driven by pulleys on the outside. By this arrangement, a large amount of continually renewed cold, wet surfaces, are exposed for the air to come in contact with, without materially impeding its progress, and as a consequence, the air imparts its heat to the wheels and the wheels transmit it to the water, so that before the water escapes, it is warmed to nearly the temperature of the inflowing air.

The ice reservoir is simply a continuation of the refrigerating wheel box, except that it is two feet higher and contains shelves running across it, on which the ice is placed and over and through which the air must pass before it reaches the vertical tube which takes it up into the building. This tube has an area of four square feet and branches off into two horizontal sections, which run around the entire tiers of boxes of the theatre at the angle formed by the ceilings and the wall. The cold air is distributed uniformly by means of eight adjustable openings in the horizontal tubes and flows into the building at a temperature ranging from 55 to 60 degrees, and so evenly is it distributed that there is no perceptible current coming in contact with any person. The apparatus is of capacity to force in about ten thousand cubic feet of this cold air per minute, so that as the oxygen is consumed by the gas burners or vitiated by the breaths of a large audience, a pure, refreshing, wholesome stream of almost frozen air is sent eddying round the theatre, making the entire edifice comfortable in the very warmest weather, though it should be crowded to excess.

*Real Estate Sale.*—The following properties ... by M.

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**Philadelphia, Friday, May 25, 1855.**

THE STEAM FIRE ENGINE.—The committee appointed by the Firemen's Association of Pittsburg, to superintend the performance of Mr. Shawk's steam fire engine, which is about to visit our city, have made their report, and it is highly favorable to the operation of that engine. In seven minutes after lighting the fire, steam began to accumulate; in ten minutes the pumps began to operate, under a pressure of thirty pounds per inch; in twelve minutes after firing, the pump was working sixty single strokes per minute, under a pressure of forty-five pounds per inch, throwing a single stream through a five-eighth inch nozzle. Three additional discharge pipes, each of three-fourths inch nozzle, were then attached, and, in eighteen minutes after firing, the pump made 112 strokes, discharging through the four nozzles 517 gallons of water per minute; the greatest horizontal distance thrown in this trial was 150 feet. Through a one and a quarter inch nozzle, the pump made 120 strokes, under a pressure of 90 lbs, threw 555 gallons a horizontal distance of 225 feet. A nozzle of one and three eighth inch diameter was then used, and with this the pump made 130 strokes, under a pressure of 90 lbs., throwing 600 gallons per minute a horizontal distance of 220 feet. The committee say, the engine is under perfect control of the engineer, and in "all its varied operations, each part performed its appointed duty with exact regularity; and we saw no cause to doubt the safety or durability of the entire machine, in continued service, if managed by skilful and experienced men. We are, therefore, of opinion that the experiment has proved entirely successful." They estimate its working capacity as seven and a half to one compared with the hand engines. The Firemen's Association subsequently adopted resolutions, calling the attention of Councils to the superior advantages of the steam fire engine over the old engine in use, and to the necessity and importance of its introduction.

THE BIRD OR GUANO ISLANDS.—Philo S. Shel-

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THE STEAM FIRE ENGINE.—The second trial of the Steam Fire Engine, manufactured by Mr. Shawk, took place at Pittsburg a day or two ago, as follows:—

"At nineteen minutes past three o'clock, the committee gave the signal to apply fire to the furnace; at twenty-nine minutes past, steam was raised, and a minute later, a flag having been waved (the signal agreed upon) water was let in from three fire plugs, and a stream from an inch and a quarter nozzle was thrown. Different sized nozzles being substituted, four streams were thrown, thus testing satisfactorily one of the great points of the engine. Upon measurement, the space of ground covered by the first stream was two hundred and twenty-five feet. In every respect was the test satisfactory.

Some persons manned the Neptune, and endeavored to throw in competition, but the water thrown was from a small nozzle, lacked forty feet of the distance reached by the Steam Engine, and, every few minutes the firemen became tired out, and were obliged to stop. The real merits of the steam engine became more apparent in contrast.—There was not one present but felt convinced of the vast superiority and usefulness of Mr. Shawk's engine."

It is added that the stream thrown from the 1¼ inch nozzle was 225 feet; from the 1⅜, 220; from four streams at once, 150 feet. Three of the last were ¾ inch, and the fourth ⅞ nozzles.

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[For the Public Ledger.]

## Shawk's Steam Fire Engine.

MESSRS. EDITORS:—There are other important facts in addition to those published in your valuable paper of the 2d inst., relative to the trial of Mr. Shawk's steam fire-engine, "Young America," which I think will be interesting to the public, and knowing you to be the friends of all valuable mechanical improvements, I send you the following statements, hoping that you will publish the same:

The torch was applied to the shavings in the furnace, at 25 minutes wanting of 4 o'clock—within three minutes, steam was generated. Steam guage showed a pressure of steam, 5 lbs. to the inch, within 6 minutes, 15 lbs. pressure within 8 minutes, at which time the engine was set in motion, and within 15 minutes from the time the torch was applied to the wood in the furnace, there was a pressure of 60 lbs. of steam in the boiler, and the pump was making 86 strokes per minute, throwing water to a distance of at least 120 feet, through an inch nozzle.

From the time the engine was set in motion to the end of fifteen minutes, it made 800 strokes of the pump, having discharged within that length of time 1,350 gallons of water. Subsequently the inch nozzle was taken off and an inch and a quarter nozzle substituted, the pressure of the steam then being 108 lbs. to the inch, the pump made 102 strokes per minute and steadily maintained that velocity, and threw water to the distance of 175 feet horizontally.

Area of pump, 4½ gallons, or 7½ inches diameter and 26 inches stroke, allowing the pump to make 102 strokes to the minute, the quantity of water discharged would be 459 gallons per minute, or 27,540 gallons per hour. With good wood, properly prepared, there would be no difficulty in maintaining a constant and steady pressure of steam in the boiler, of at least 160 lbs. to the square inch, which would increase the velocity of the pump to at least 120 strokes per minute, and would increase the working capacity of "Young America" to 32,400 gallons per hour, through an inch and a quarter nozzle.

Now let us compare "Young America" with one of our first-class hand engines, and see what will be the proportionate working capacity between them.

Area of pump in first class hand engine 2 34 100 gallons, or 10 inches diameter and 8 inch stroke, allowing the pumps to make by hand 60 strokes per minute, which is more than is an average of hand-engines, the greatest amount of water at that speed, would only be 140 4-10 gallons per minute, or 8,427 gallons per hour, allowing it to work constant, which is impossible with a hand-engine. I think it will be a fair allowance to say that a hand-engine cannot be in actual working service over one-third of the time during a fire, which would reduce the actual working capacity of a first-class hand engine to 2,808 gallons of water per hour, which would make "Young America" on a long pull and a strong pull, equal to 11½ of our best first-class hand-engines, manned by 575 men; but to be even more liberal, and allow one half of the time for actual working of the engine, "Young America" would be equal to 769 100 of the first-class hand-machines, manned by 3:6 men.

For small fires, in narrow streets, the second or third-class hand engines are preferable, but in case of a large fire, where a vast amount of water is necessary, the comparison between Mr. Shawk's steam engine and the first-class hand engine would be about as to compare the steamer Isaac Newton to one of the Troy Horse boats, which the Knickerbocker of Albany once did ridicule so much.

Yours, YOUNG AMERICA.

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*The Cornish Engine.*—The new Cornish Engine, at the Schuylkill (late Spring Garden) Water Works, is now completed and its power has been tried. This Engine, being comparatively new in this country, attracts a great deal of attention. It differs from the ordinary engine in the fact that the steam acts only upon the upper side of the piston, and by depressing it, thereby raising the plunger of the pump upon the opposite side of the lever beam; the plunger is made of sufficient weight to force the water to the reservoir and overcome its friction in the ascending main, thus the engine expends no more power than what is just sufficient to lift this weight, the water being forced up by the fall of the weight alone. The contractors for building this engine have guaranteed a duty of fifty millions of pounds raised one foot high, with one hundred pounds of coal. The other engines at the works are only capable of raising twenty-five millions, with the same consumption of coal. On several occasions the citizens of the old District of Spring Garden have suffered much inconvenience for the want of water caused by a disarrangement of affairs at the works, owing to the fact that the four pumps are connected by two mains of 25 inches and two of 16 inches, then into a case-iron box, and from thence by two descending mains to the reservoir, a distance of 3250 feet. To obviate this risk, a main of 20 inches in diameter has been laid, connecting with one of the 25 inch mains, below the box, and by running around it and attaching to the 20 inch main above, there will be one main to use, if the box should burst. This main is to be attached to the Cornish Engine, so that those supplied from these works need not fear of a deficiency in the supply.

During the year 1854 the coal used at these works amounted to 3,049 tons, being an average of 8 tons, 7 cwt., 9 lbs. per day.