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WEST POINT DURING ENCAMPMENT.

Description of the Parades—Instruction of the Cadets in Field Fortification—Hops—“Stag Races,” &c.

A large number of visitors are now gathered at West Point, consisting of the friends and relations of the cadets, with many others, who resort to this seat of military knowledge and learning to pass a few days in observing the highly interesting military evolutions that are daily taking place during the encampment. Roe's and Cozzen's Hotels are both full to overflowing most of the time, the former being, as usual, largely represented, the series of military displays presenting to them peculiar attractions. The temperature of the air at the Point is always most agreeable, there being no part of the day but a breeze—cooling and refreshing in its character—may be perceived. The evening walks around Roe's Hotel and along the banks of the river are, as we heard remarked by an enthusiastic and romantic young lady, “so charming,” she having just returned from beholding the beauties attendant upon a saunter along “Filtration Walk.” Who was her companion, deponent saith not, but he fully coincides in her opinion. One blessing visitors here enjoy, unknown to nearly all watering places and summer resorts, is perfect freedom from mosquitoes. Not one did we see or hear during our visit.

It is not generally known that West Point is now the headquarters of the army, it having been removed from New York about a month since. General Scott has, therefore, his office in the Academic building, where he transacts all necessary business.

The rules of the academy are enforced with the utmost strictness, and we be to the unlucky individual who may be caught in the act of their violation. The cadets are organized into a battalion of four companies. The officers are taken from the first, the sergeants from the second, and the corporals from the third class.

At five in the morning the visitor is aroused by the sound of music at the encampment. This is the reveille, and is the signal for rising. Half an hour is allowed for dressing and regulating the tents, when the cadets are assembled at the morning drill, which lasts until half-past six. Breakfast in the mess hall at seven, and troop beats at eight, when the morning parade takes place.

Half an hour previous a signal is sounded for the music to assemble on the regimental parade, and at the same time each company turns out under arms, on its own parade, for roll call and inspection by its own officers. In ten minutes, is given the Adjutant's call, when the companies march (the band playing) to the regimental parade, where they form in their relative positions in the order of battle, arms orered, and a rest; the officers at their post on foot, with swords drawn, the Adjutant on the right of the line. The music is formed in two ranks on his right, and the band continues to play while the senior officer present, who has the command of the parade, takes his post at a suitable distance in front, opposite the centre, facing the line. Ten minutes after the Adjutant's call, the latter orders the music to “beat off,” when, commencing on the right, the band marches in front of the line to the left and back to its place on the right. When the music ceases the Adjutant, stepping to the front, faces the line, and in a clear tone gives the command—“Attention, battalion! Shoulder—arms! Prepare to open ranks! To the rear, open order! March! Right—dress!”—the ranks opening and the officers advancing. The Adjutant, after first seeing the ranks aligned, marches along the front of the line to the centre, faces to the right, and advances to a position midway between the battalion and the senior officer in command. Turning to the right about, he gives the word, “Present—arms!” when, accordingly, arms are presented, officers saluting. He then faces about to the commanding officer, salutes, and reports—“Sir, the parade is formed.”—when, upon an intimation from the commanding officer to that effect, he passes around to his rear and takes his station towards his left. The commanding officer now acknowledges the salute of the line by touching his hat; drawing his sword, he orders such exercises as he may think proper, concluding with “Order—arms!” The Adjutant, passing round the latter's right, resumes his former position, midway between him and the line of company officers, and directs, “First sergeants, to the front and centre—march!” Having reached the centre, and faced the Adjutant, they proceed to report the result of the roll call previously made on the company parade, each in succession, beginning on the right, saluting by bringing the left hand quickly across the breast to the right shoulder, and announcing, “First company present or accounted for;” “Second company,” &c. They then resume their places, and the Adjutant, again facing the commanding officer, gives him the result of the First Sergeants' reports. The command is given at this point for the orders to be read, which are all proclaimed as given “by order of the Secretary of War.” The Adjutant, after announcing, “The parade is dismissed,” proceeds to his position in the line of the officers, all returning their swords, and closing to the centre, when they together march forward in one line, (the music playing, and also advancing,) to within a few paces of the commander, whom they salute by raising the hand to the cap, when they are dismissed, after receiving from him such instructions as he may have to give. As the officers disperse, the First Sergeants close the ranks of their respective companies, and march them to the company parades, where they are also dismissed, the band continuing to play until the companies clear the regimental parade.

The morning parade is immediately followed by guard mounting. The camp as well as the garrison guards are relieved every twenty-four hours. The men named for duty turn out at a given signal upon their company parades, where they are inspected, and then repair, upon the giving of a second signal, to the plain in front of the guard-rooms. After various evolutions, inspection, “beating off” by the music, and various other details, the guards are declared formed, and, shouldering arms, they perform such exercises as may be required by the officer of the day. In the meantime the old guard form upon their right, and upon the ceasing of the music the old and the new officers of the day salute, and the former imparts to the latter the standing orders. The old guard then march along the front of the new guard, in quick time, the latter standing at present arms, officers saluting and the music of both guards beating. The new guard place their arms in the arm rack, with the exception of the first relief, which is ordered in front, placed in charge of the corporal, who goes to relieve the sentinels, accompanied by the corporal of the old guard, who takes command of the old sentinels as fast as relieved.

The sentinels are relieved every two hours, unless the weather or some other cause should make it proper or necessary that they should be changed at shorter or longer intervals. The greatest care is taken that all the orders are obeyed with the utmost promptness, and the motions performed with spirit and exactness. The guard are required to be continually on the alert, as they may be called out at any moment to be examined by the officer of the day.

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In pursuance of the resolution of the City Council, passed Dec. 21st, we have examined the Steam Fire Engine built in Cincinnati by Mr. Abel Shawk, more especially with reference to the strength and safety of the boiler.

This boiler differs from that of the “Joe Ross” in having the sides of the fire surrounded by a continuous series of pipes, arranged so as to form a square casing about it, which, after being built up to a sufficient height, are then turned backward and forward over the fire, and piled in successive layers, until a sufficient length and thickness of pipes gradually increasing in caliber as the total length increases. The water is injected into the lower end of the coil, and takes up the heat from the pipes until it is converted into steam, and is delivered into a strong cylinder, being compelled to pass through water contained therein. This steam chamber communicates, by means of a pipe from the upper end, with another and larger cylinder, which forms part of the frame work, or foundation, of the pumping apparatus.

Upon a careful comparison of the principle with that of the “Joe Ross” (which is essentially the same as the others at present in use in this city), we are decidedly of the opinion that the boiler upon the plan built by Mr. Shawk is stronger and safer than that of the “Joe Ross,” and for the following reasons:

First, there is no liability of producing a mixture of surcharged and saturated steam to a dangerous extent. Such a mixture, in considerable quantities, is regarded by many of the most experienced engineers as a fruitful source of explosions. In the boiler under consideration there cannot be any surcharged steam, except in the generating coil, above the level of the water, and it can only mix with the saturated steam in the steam chamber, by being converted into saturated steam during its passage through the water in the first receiver. As this steam-chamber is not in contact with the fire, the steam in it cannot become surcharged. In the boiler of the “Joe Ross” the generating coil may be delivering surcharged steam into the steam-chamber at the same time that the fire is generating saturated steam, and vice versa, just as the one or the other is supplied with water, and according to the intensity of the fire. This state of things produces a liability to explosion which does not exist in the former instances to any thing like the same extent. The strength to resist such an emergency is equal in the two descriptions of boilers, as far as the coils are concerned.

Again, the boiler as built by Mr. Shawk does not depend for its strength upon the quality of the workmanship and material so much as does that of the “Joe Ross.” And it must be borne in mind that if the boiler is weak in any one point, no excess of strength in other parts will be of any avail against an explosion. The steam chambers in Shawk's boiler are of a form which possesses the greatest strength with ordinary care in construction; whilst that of the “Joe Ross” depends for its strength almost entirely upon the quality of the workmanship as well as the quality of the material.

The bursting of a pipe or number of pipes in the generators of either of the above-named boilers would not be attended with very disastrous consequences; the greatest danger would be apprehended from an explosion of the steam chambers. As we have said above, the cylindrical steam chamber is entitled to preference for superior strength, and it is not liable to have its original strength impaired by improper exposure to the action of the fire.

On the ground of efficiency combined with lightness, we think that Shawk's boiler is also entitled to the preference.

The boilers of all the steam fire engines are provided with safety valves, steam gauges, gauge cocks, capacious pumps, operated either by steam or by hand; in fact, all the usual appendages are provided to avoid accidents.

In conclusion, we beg to suggest that the fire box of the engine “Joe Ross,” as also of other boilers of the same description, be more effectually braced, by putting the stay bolts much closer together, as, for instance, in the diagonal centers of the squares, as at present arranged, and that the semi-cylindrical steam-chambers be braced by riveting bars to the inside sheet, and screwing bolts through the outside and inside sheets, and the bar, the head of the bolt bearing against the outside sheet, the other end being riveted against the inside sheet. Also, that the present stay bolts be carefully examined, the defective ones replaced, and all of them made tight in their threads. This suggestion is made in case it should be determined to rebuild the boiler upon the present plan.

It would be advisable, as an additional security, that the boilers of the several steam fire engines be subjected to a hydrostatic test at least once a year, at a pressure of 100 lbs to the square inch, noting at the same time, the indications of the pressure gauge belonging to the boiler under examination.

That the maximum working pressure at which the engines shall be operated be 75 lbs to the square inch, unless, in certain extreme cases, the Chief Engineer of the Fire Department, or the proper officer acting in his stead, shall deem it necessary and prudent to permit a higher pressure to be maintained. In such cases the maximum pressure not to exceed 100 lbs to the square inch.

That the exhibition trials of the fire engines belonging to the city be strictly prohibited, or exercised by the Department in the selection of the Engineers in charge of the machinery, as the greatest economy and efficiency will be attained, as also increased security.

All of which is respectfully submitted.

JOHN W. WHEATSTONE, Com.

GEORGE SHIELDS, Com.

COUNCIL CHAMBER.

CITY CLERK'S OFFICE, Cincinnati, Feb. 14, 1856. I hereby certify that at a meeting of the City Council, January 2d, 1856, Mr. Glass, Chairman of the Committee on Fire Department, presented a report from the Com. of Mechanics appointed to investigate the causes of the explosion of the “Joe Ross” and the relative merits of the two kinds of Steam Fire Engines manufactured in this city—and that the transcript herewith appended is a true copy of the same.

In testimony whereof, I have hereunto set my name, and affixed the seal of the City Clerk, this 15th day of February, 1856.

STEPHEN B. HULSE, City Clerk.

The Water Works of this City.

We learn that on account of the extreme severity of the past winter and the spring freshets, the basins and embankments of all the water works were more or less damaged, and, accordingly, have been undergoing repairs under the direction of Mr. Samuel Ogden, the chief engineer. At the Kensington works about 14,000 bricks have been laid in the basin, and the embankments strengthened at top and bottom. By such repairing and cleansing of the works, the water now is as clear and pure as could be desired. The Spring Garden works are in excellent condition. Nearly all the brick work of the Fairmount establishment has been re-laid, and the basin puddled, so as to prevent the water from finding its way through the banks. Two of the large wheels have been entirely rebuilt, and the others repaired, as well as the forcing pumps, while a new cap log is being laid on the dam, the old one having been removed by the ice of last winter. The fullest supply of water may now be had from all these works. The receipts into the department have been \$50,000 greater than last year, a fact which is to some considerable extent, attributable to the system of making new searches, adopted by the present chief.

The Kensington Works.—In consequence of the numerous complaints of the bad quality of the water, arising, as it is believed, from the filthy state of the reservoir at Fair Hill, the Chief Engineer of the Water Works, Mr. Ogden, has taken the matter in hand, and will forthwith commence measures for the purification of the reservoir. The citizens of the two northeastern sections of the city, during the progress of the work, will be supplied from the other water works of the city, and Mr. Ogden appeals to the residents north of Vine street, to refrain from the needless use of the water supplied to them.

Steam Fire Engines.

Report of the Committee of Engineers, appointed by the City Council of Cincinnati, to inquire into the cause of the explosion of the Steam Fire Engine “Joe Ross,” and, also, to inquire into the relative degree of safety of the two kinds of Steam Fire Engines manufactured in Cincinnati.

To the Committee on Fire Department of the City Council of Cincinnati:

GENTLEMEN—The Committee, in accordance with the resolutions of the City Council, passed December 12th and 21st, to inquire into the causes of the explosion of the boiler of the Steam Fire Engine “Joe Ross,” and, also, to examine the relative strength and safety of other kinds of Steam Fire Engines manufactured in Cincinnati, would respectfully

REPORT.

That they have carefully examined the testimony adduced before the Coroner's jury assembled immediately after the explosion, as also the appearance of the exploded boiler, as exhibited to the Committee at the Engine house on Fifth street.

The boiler consists of a generator, or coil of pipes, contained within a surrounding fire box, the lower portion of which serves as a water jacket around the fire—while the upper part is used as receptacle of the steam after it has been generated. The coil of pipes commences a single pipe, returning upon itself for a number of lengths, and afterward branching into several pipes, or coils of pipes, which terminate into a semi-cylindrical steam-chamber at the upper forward part of the fire box. All the sides of the inner shell of the steam box have flat surfaces, as likewise those of the outer shell, except at the forward end, which is formed into a semi-cylindrical shape at the top, for the purpose of making an enlarged steam-chamber. The outer and inner shells of the fire box, where they are parallel to each other, are stayed or braced to each other by means of stay bolts secured through both sheets and riveted, and the walls of the semi-cylindrical steam-chamber have angle irons, or brackets, riveted to the sheets to which stay rods are pinned or bolted—the ends of the chamber being braced by means of long bolts secured to them. The spaces between the screw stay bolts through the body of the fire box form squares varying from 5 to 6 inches. The stays in the steam-chamber proper are from 9 to 12 inches apart. The steam is generated in the coil of pipes, as all in the surrounding fire box, and the water is supplied to each by separate connections to the pumps. Stays there may be said to be two boilers connected together only by a common steam chamber.

We have examined carefully, as far as practicable, the appearance and condition of the exploded boiler, and find it to be as follows:—The outer shell of the forward part of the fire box has been broken from the rivets which pass through the bottom ring separating the outer and inner shells, and is torn or severed on both sides throughout nearly its entire length, leaving strips of an average width of 2 inches on each side where it had been riveted to the side sheets. The screw stay-bolts are nearly all torn out of this sheet, only a few remaining in it, the remainder being yet in their places in the inside sheet. It would seem from the appearance of the boiler that the first rupture took place at the bottom ring, and the force of the explosion has torn off the stay bolts successively—forming the sheet into parallel furrows, whilst the reaction upon the inside sheet has forced it inward upon the coil of pipes, breaking several of them. The iron of the ruptured sheet appears to be of good quality. The stay bolts which have been torn out show the screw threads upon them almost perfect, and the corresponding threads in the boiler sheet are likewise but little injured, even less than would have been expected from the abrasion of the riveted head in passing through. The force of the explosion was sufficient to throw the engineer to a distance of six or seven feet, besides rupturing all the stay bolts and bending the frame work on which the “Doctor” engine is mounted. The ruptured sheet presents, in some places where it had been riveted to the bottom ring, indications of having been strained at some time previous to the explosion, which may have been intended to induce the fatal result. We also found on the water side of the inside sheet, a blister of considerable extent. This is an imperfection in the manufacture of the sheet, not having been welded. It is thin, being but little over 1/32 of an inch thick. It is not of the nature of a scale, such as is produced on the surface of iron when heated to redness; but, upon being cut loose with a chisel, it presented upon its inner surface the same appearance as it would if it had been cut open immediately from the manufacturer's hands. The swelling of this blister has undoubtedly been caused by heat, but how great the heat, or at what time it occurred, the committee are unable to determine. We are of the opinion that it occurred at some time previous to the explosion, and perhaps at the time when the strain was produced upon the outside sheet as above noticed. The entire surface of the sheet is covered with the usual sediment, showing no indications of recent corrosion to an extent sufficient to impair its strength materially, although it would seem, from the testimony given at the Coroner's inquest, that there was a deficiency of water in the fire box. There may have been enough water to prevent it becoming so hot as to be materially weakened, but we do not think it would require much water in the narrow space of 1/4 inches to prevent its violent ebullition, the accumulation of a great degree of heat in the short space of ten or fifteen minutes, during which the engine is supposed to have been in operation.

But from the want of sufficient reliable information with regard to the incidents connected with the explosion, it will be impossible to arrive at the precise cause of it; but from the best analysis we can make of the facts presented, and the examinations we have made of the wreck, we are led to the conclusion:

1st. That the quantity of water injected into the boiler was such as to generate steam so rapidly that a sudden stoppage of the engines without an immediate relief through the safety valve, increased the pressure beyond the strength of the boiler to resist it.

The boiler is capable of generating steam with great rapidity, and the steam room being small, compared to the generative power, the pressure accumulates rapidly, and is consequently requires a great amount of strength in the boiler to resist.

2d. The boiler was not sufficiently stayed, so as to guard against such an emergency as was here presented.

Had the plates of the fire box been sufficiently stayed, we should have found an explosion of the fire box enveloping some or all of the following indications: The stay bolts pulled asunder, showing either defective material or undue pressure. The threads of the stay bolts where they had been screwed into the boiler plates entirely stripped, showing that they had been well fitted and had yielded only to excessive pressure, or to the destructive action of a high temperature. The spaces on the inside sheet between the stay bolts, being inward toward the fire, indicating the absence of water, permitting the iron to be heated to redness, accompanied with a high pressure of steam in the boiler.

Since we find none of these indications sufficiently decisive to conclude that the fire box was not sufficiently stayed. The majority of the stay-bolts remain in the sheet which was next to the fire, and the distortions of both sheets are such as are due entirely to the reactive force of the explosion.

It will not be amiss to say a few words with regard to Mr. John W. Wheatstone, who lost his life by this disaster. His character and qualifications are favorably endorsed by two members of this Committee, who were personally acquainted with him, as well as by the testimony of many others who are well qualified to judge. He was probably the victim of an unfortunate zeal which had been successful (as probably would be) if it had not been so unexpectedly thwarted. We are assured by the estimations of many who now censure him,