OUR FIRE ALARM SYSTEM.

IMPROVEMENTS IN SUMMONING THE FIRE COMPANIES.

Alarm Boxes and the Telegraph in Place of the Old Fire Towers—Damage Stopped by Saving Time—Eight Hundred Miles of Wire in Use—Importance of the Repair Shops.

The bells that rang out from the lofty wooden towers known as the fire towers twenty years ago drew out to fires, besides the brave, hardy, and alert volunteer firemen, a motley throng that overtaxed the then comparatively undisciplined police and embarrassed the over-numerous, though zealous, firemen. The general alarm from the towers also attracted thieves, who contrived to steal whatever was easily portable from the property rescued from the flames. The alarm of the fire bells is a thing of the past. The towers have, with few exceptions, fallen at the command of the Commissioners of the paid and disciplined Fire Department. Four or five of them still stand in the old parts of the city as a precaution against the failure of the system of telegraphy that moves the present department with the exactness of a machine. This precautionary measure was proved to be a wise one last winter, when for several days the great network of telegraph wires of the city was rendered useless by a storm of sleet that converted each wire into a strand of crystal beautiful to every one but the anxious officials of the Fire and Police Departments and the exasperated operators of the commercial lines. In the years before the introduction of the existing systematized fire service delay was occasioned by the character of the apparatus, and the gathering of the firemen from their homes to reinforce those who were detailed to house duty, that gave the flames headway, and added to the difficulties of the work of extinguishment and to the losses. Nowadays all is changed. The city is gridironed with 800 miles of wire devoted solely to the use of the Fire Department, and kept in a state of usefulness equalled by few systems in the world. These wires are tapped by hundreds of small instruments known as "fire boxes," attached to the poles that support the wires, and distributed throughout the length and breadth of the city, that communicate a fire alarm at a touch even from a novice. By a novel appliance of telegraphy, the alarm from the box, at any hour of the day or night, sounds on the gong of every fire company, and instantly summons every man and horse in the department to the main floor of the companies' houses, ready to dash away to the scene of the fire. The same alarm rings in every police station, and rouses the Sergeant at the desk to alertness. So, within a few seconds, strong detachments of firemen, their horses on the gallop, and of policemen, at their most expeditious pace, are on the way to a fire. Within an average of between two and three minutes water is pouring from half a dozen steam engines upon the flames, and a police line keeps out thieves and prevents a pressure of spectators on the firemen. But in the place of the thousands that once attracted by the tower bells, crowded and jostled at fires, there are hundreds now, and, except in the instances of great fires that startle by their lurid lights the entire community, the work of the police is easy. All of the great changes from the old volunteer system to the new one may be summed up in the result, of which New Yorkers are wont to be boastful, that New York probably possesses the most efficient fire department in the world.

"The favorite objection of the veterans of the old Volunteer Fire Department to our organization," said a fireman who worked his way up from the ranks to a high command in the department, "is that we are paid for our services, and, therefore, cannot feel the interest that men who ran to fires in the old times did. But this is nonsense. Any man that has blood in his veins feels a 'fire there' interest in a fire. This is heightened when he is paid to fire the fire, and he is paid as soon as he receives the censure of his superior officers if he does not. But for a healthy man no other incentive than the excitement of the moment is necessary to impel him to do his best. Have you ever ridden to a fire? No? Well, come around our way some night, and I'll give you one of the most exciting experiences of life. There is nothing like dashing to a fire, standing on the ashpan of an engine, at about 3 o'clock on a clear, starry morning, with the big, hearty horses ahead, pounding along at a three-minute pace, and making the sparks fly at every jump! Then you see the light of the flames in the sky, and you think of whether you'll have an opportunity to do something that will merit honorable mention, and bring promotion, or whether you'll be at the fellows of Engine ——, which belongs to your fire district, and ought to be in at the fire a few seconds before you. Talk about fire! What more exciting man want? Then the growling relics of the old department speak of there being none of the wholesome rivalry that spurred them to do their best. That's more nonsense. We have the keenest rivalry among us, but it doesn't show itself in reckless haste. There's more in fighting over a pump, as theirs too often did. But it stimulates us to get under way, and to adjust our hose and turn our stream on a fire in the least possible number of seconds. In every one of the fire districts into which the city is divided, one engine can account of being nearer than the others is expected to reach a fire first. Every other engine in that district tries to beat it, and the engine that succeeds is honorably mentioned in the official report of the fire. Naturally, the defeated company feels somewhat aggrieved, and determines to retrieve its lost honors. In this way the healthiest possible rivalry is kept alive. Why, it's so strong that no man in the department goes to a fire nowadays without taking his life into his own hands. The engines dash over car tracks, among vehicles and around corners in a way to imperil the life of every man on the machine. That's pretty warm work for firemen 'without a healthy' rivalry or interest in their business, is it not?"

"I think that we can confidently claim to have achieved results that commend themselves to the approval of the people of New York," Fire Commissioner Van Cott said, when he sat in his cosey private office in the headquarters of the Fire Department, in Mercer street. "The first meeting of the Commissioners of the Paid Fire Department was held on the 4th of May, 1865. The Commissioners had up hill work before them in laying the foundation of the new department. They had, in the first place, to supplant a system that had driven its roots down into the soil of the public approval for nearly a century. They had, necessarily, to struggle against much jealousy and ill-feeling from the advocates of the supplanted system, that they did their work bravely and well is, I think, amply shown by the results that the records of the department show. The first company was organized under the new order of things on the 17th of July, in the same year. Within a year from that date there were fifty-four companies completely organized. In 1874 the annexed district was added to our charge. The number of companies has been gradually increased until we have now sixty-five companies. But it is a fact that there were more men in the department then to cover the city, comparatively sparsely settled above Fifty-ninth street in those days, without the annexed district, than there are now. In 1865 there were upward of 900 men in the department, but many of the men were not fully employed. They got, when they served above Fifty-ninth street, $300 a year, and were allowed to pursue their regular avocations during the day. Now we have barely 700 uniformed men. I mention this to show that there is not much, if any, sinecurism in this department, and give some light upon the statistics of our department that show how steadily the extent of fires and the amount of losses from fires have decreased. Then it ought also to be taken into account that the great widening of the territory that we have to cover, and the increase of population, and consequent increase of the danger of fire, has been attended with a multiplication of the uses of the Fire Department. We have subdivisions of our department now that were not dreamed of in old times. We have a fire boat, a fire marshal's bureau, a water tower, a bureau of combustibles, our own repair shops, and hospital stables, and so on. Then we are expected to keep up a theatre patrol, which we gladly do, because we believe it to be an excellent idea, and to do other little extra services for the public.

"I fancy that I ought to be able to speak with some degree of familiarity of fire service. I have had my share of experience in the new and in the old department. I belonged to Hose Company 7 of the Volunteer Fire Department in the days when James Morris, a partner of ex-Mayor Wickham in the provision business, was foreman, and I am serving my second term as a Commissioner of this department. The records of the department sufficiently show its usefulness. Never a year goes out of the building in ——, or, unless it is a particularly ——able building, completely destroyed. Our report published on the 1st of January last, covering the preceding fifteen months, contains figures that, I think, show the efficiency of our rank and file of the department. Out of 1,783 fires, 1,663 were confined to the buildings in which they originated; 11 extended to other buildings; 9 were on vessels, and therefore necessarily isolated; and 66 were in woods, lots, and streets. In the cases of 607 fires in which the damage to the structures was accurately ascertained, the injury was slight in 508 and considerable in 76, and total destruction resulted in only 23 instances. Then, owing to the promptness with which the men reach fires, the amount of loss in money has very materially declined. In 1866, with 796 fires, there was an aggregate loss of $6,428,000, and the average loss was $8,075.38 per fire. Then, as I have said, there were nearly 200 more men in the department than there are now, the annexed district was not included in the fire limits, and the city, at least the upper portion, was not nearly so thickly settled as it is now. The number of fires per year has increased steadily each year until now it is fully twice as large as it was in 1866, but the decrease in loss shows a retrogression in a corresponding ratio. For instance, in 1881, with 1,783 fires, the aggregate loss was $5,183,110, and the average $1,785.14.

"In addition to putting out fires," the Commissioner went on, "our Fire Marshal and attorney have done something toward preventing those of incendiary origin. The origin of every fire is carefully investigated, and if there is any reason to suspect incendiarism, arrests and prosecution for arson follow. Within the last few years a number of persons have been convicted of arson in the first degree and sentenced to State prison for life, while others, upon convictions of a minor degree of the same offence, have been sent to State prison for various terms. I presume that there are some persons that fancy that we have been endeavoring to train men and horses to get into trim to start for a fire in the least possible number of seconds, mainly for show. But this promptness is the very life of the department. A minute lost in getting to a fire makes all the difference in the world. With this fact in view, the Commissioners have given the battalion and company commanders to understand that they are expected to get the apparatus across the doorsills of their houses in as few seconds as possible. In 1880 the quickest average time in getting an engine ready to start was 35 seconds, the slowest, 1 1/4 minutes; the quickest for trucks, 2.75 seconds; the slowest, 14.17 seconds. The average time of all kinds of apparatus in 1880 was 8.24. This high average was due to the fact that many of the companies had their horses stabled in inconvenient places. We have remedied this as far as possible, and the average will be much lower, I think, this year. But this average compares most favorably with that of preceding years. In 1879, the average was 9.51 seconds; 1878, 10.26 seconds; and 1877, 13.02 seconds.

"I ought not to leave out our horses in speaking of the work of the department. We have some splendid animals in our service. Why, they possess, apparently, the intelligence, docility, and affection of human beings. It is a fine sight to see a pair of these noble animals, with ears and back, eyes blazing, and nostrils distended, galloping to a fire. They are treated with the kindness of a father by the firemen, and they repay the attentions that they receive with zealous attention to duty. If one of them is injured in the discharge of his duty we take as much care of him as of a human fireman. He is taken at once to the hospital stables in Christie street, and treated with the utmost care. We have, as a rule, sixteen horses in the stable at once. Our price for our horses is $600 a pair. If we could pay more, we might get even a finer class of animals. But the drivers and expressmen outdid us for the largest and most spirited horses that come to this market.

"But a matter of the gravest possible consequence in connection with the work of this department is the water supply of the fire plugs. In some parts of the city this is notably deficient. I may point out one region, and that a most important one, in which the lack of water is notable. In the section between Bleecker and Canal streets and Broadway and Crosby street, where much business is done, there is sometimes no water to be had. We have turned on the hydrants without getting any flow of water whatever. There should be a great reform in the water supply before winter sets in. The upper part of the city, east and west, has become a great manufacturing centre, and the liability to fires has immensely increased. Ex-Commissioner of Public Works Campbell and the present Commissioner, Mr. Hubert O. Thompson, have uniformly shown great readiness in adopting our suggestions, and I have little doubt that they will be able to do a great deal to make the city safer before winter sets in. On the 14th ult., at a meeting of the Board, I offered the following resolution, which was adopted:

"*Resolved*, That the Chief of Department be directed to order an immediate inspection of all fire hydrants in the city, and report to this Board, for the purpose of ascertaining the water pressure, and a test by company commanders, with water pressure equal to one hydrant and one line of hose, of one hydrant and single outlets on each block in their respective districts, such tests to be made at different hours within twenty-four hours, viz., between 9 and 11 A. M., 3 and 5 P. M., and 10 P. M. and 12 midnight. Reports of the results of such inspections are to be compiled, and forwarded through the proper channels, and the exact location of each hydrant and the pressure taken at each test to be clearly stated therein.

"The necessity for this resolution was, I think, fully shown by the Fourth avenue carriage fire. The scarcity of water there for a while caused an incalculable amount of property and many lives."

Commissioner Van Cott's first term was by appointment from the late Mayor Havemeyer. He was nominated for his second term by ex-Mayor Cooper. In the interval between the terms he was elected Vice-President of the Ætna Fire Insurance Company, of which Col. Frederick A. Conkling was President. His associates in the Commission are John J. German and Henry D. Purroy. The telegraph bureau of the Fire Department is in the top story of the department headquarters. The instruments are set in cases of polished black walnut, a network of the costliest kind. The carvings in the red wood—the wood principally used—of the bases of the instruments, and in the arches and cornices over them, would adorn a Fifth avenue mansion. The instruments are of the finest attainable workmanship.

"We have to keep up with the times here, I assure you," Acting Chief Farrell said. "We must have the latest thing out in telegraphy as soon as it appears, or we would fall behind. If the repair shops are the backbone of the department, our bureau is certainly the nervous system of the department. We have sworn Chief J. Elliott Smith, but we ought to have more, for, as you see, though we are only keeping up with the fire inspector's morning round, we are on the jump. To begin with our wires, we have seventy-four that come down through a opening in the front of the building there, like lightning rods, to the roof. They cover eight hundred miles in their ramifications. Here is a map of the city as arranged for our use."

He drew out from its case a map that was peppered with red spots and blotched with blue ones. Near each spot was a number.

"The red spots," he explained, "represent the fire boxes, and the numbers are the numbers of the boxes. The blue spots stand for engine houses. A touch upon the instrument in any one of the hundreds of boxes sounds a gong in every house. The first stroke of the gong puts an operator on the alert. It uses a red card, numbered like the box, that has begun to rise in the tiny glass case at the top of that switch board. He darts to the switch beneath the number, and, pressing it down—this method is the invention of our chief—brings into play that long bar, which communicates with every house in the city, and sounds the alarm throughout the department. This is all done so quickly that the second stroke—five strokes is the alarm—is heard throughout the department, and puts every man into position to jump for the fire. Under the old system a great deal of precious time was lost in receiving from the operator the report of the company houses. I should have said that the first stroke of the alarm box is made to draw the single bolt that confines the horses in their stalls. The pushing down of the switch also starts the indicator, which prints on paper the alarm. The indicator can print after sounding forty fires at once, and, no matter how many fires occur at once within that number, we are made safe against losing one of them. We have duplicates of all our instruments, so as to guard against accidents. Then every fire box in the same neighborhood is on a different circuit. If one box does not work, the next will. Then we don't trust to our wires being in order. We have here an automatic tester. It tests every wire in the department every ten minutes, and if there is the slightest trouble anywhere we can locate it within a few feet by means of this Wheatstone bridge, or galvanometer. We keep our wires 'dead,' that is, uncharged, except when in use, so that no other sound, such as might be made by the falling of a wire across one of ours, than a legitimate fire alarm or department business call can reach department or company headquarters. As an evidence of what can be done in the way of massing engines by telegraph, I may refer to the record of the recent great brewery fire. In that instance fifteen engines, eight trucks, and the water tower were at work on or within a stone's distance of the fire, inside of ten minutes and a half."

"We make and repair everything that is used in the Fire Department," Chief McCale of the Fire Department repair shops said, "with two solitary exceptions. We can't make an engine yet, or nozzles. We make hose, but we can repair both. We have fifty skilled mechanics, who, under the supervision of my assistants, James Degnan and George Morris, and myself, turn out, I contend, as fine work as is done in any shop in the United States. Of course, we have the best attainable means of doing everything."

Commissioner Van Cott, through the carrying out of an idea of his, has paved the way for doubling the efficiency of the department. The fire boat, the water tower, and two engines have already been changed to comply with his new system. The water tower now throws a stream that can take the side out of a house hundreds of feet. Formerly a two-and-a-half-inch hose with an inch-and-a-half or three-quarters outlet was regarded as the acme of water-throwing power. About three months ago an inventor from Boston, who has devoted fifty years of his life to the improvement of fire apparatus, came here to get a test of what he called a 'Monitor' nozzle. Mr. Van Cott accorded the test, which was made on the fire boat. When the old man's nozzle had been tested, Mr. Van Cott brought out one that he had invented. It had a two-and-a-half-inch outlet, which was adapted to three-and-a-quarter-inch hose, and threw a volume of water that would flood a building in a very short time. The old Boston man was overcome. He said that he had never expected to see anything of the kind, and he was done. He died soon afterward. Among the other notable improvements that Mr. Van Cott has devised is the supply wagon. This is to contain everything necessary to equip a fire apparatus, from 500 feet of hose down to a set of burglar's tools modelled after those left behind by the Manhattan Bank burglars. For forcibly entering iron doors or windows. A wagon as soon as the set ordered is completed, is to be stationed in every battalion district, I believe, so as to be handy whenever a fire alarm is rung anywhere."

A PLOUGH FROM VERMONT.

How the Farmers' Club Spent a Day at the Home of a Poet—A Noble Dinner.

A large plough from Vermont imparted an unusual air of rusticity to the gathering of the Farmers' Club, in Cooper Union, on Tuesday. Two gentlemen who had accompanied the plough from its native wilds expatiated upon the uncommonly facile manner in which it is accustomed to turn furrows, and the Chairman and a dozen or more members of the club, bending over the plough and inspecting it closely through their spectacles, whispered to one another that it was a wonderful engine of modern progress, and, by intelligent questioning, learned a great deal concerning its uses, and, indeed, concerning the whole ancient and widely extended art of tilling grain. Finally the club, giving way to its feelings, broke into a subdued hurrah in honor of the gentlemen who had produced the plough before them; whereupon one of the gentlemen rose to his full height behind the gleaming implement, and, stretching his arms wide apart like a sign post at the cross roads, bowed his head and said, with much emotion, "Farmers of New York, I thank you."

At this the Chair said that both the club and the gentlemen had best not be premature, since, doubtless, there were a great many good ploughs in America, and this particular plough might not after all prove what it had been cracked up to be. The Chair then recommended a trial of the Vermont plough, whereupon Mr. Bloodgood H. Cutter, the Long Island poet, offered to have it taken down to his farm at Little Neck and pitted against a very satisfactory swivel plough of his.

The Chair then, with much kindliness of manner, remarked to the Vermont gentlemen that he supposed they would find no fault with him for believing that a pudding, of which the proof lay in the eating of it.

Applause greeted this remark from the Chair, and the gentleman who had brought the plough bowed their heads with considerable emotion. One member rose to make a speech. He began with much spirit, and said that a great deal had been talked on the floor of the club, of which very little had been about farming. This, however, proved to be an unfortunate opening, for the speaker was at once met by a great hoax and general inattention, and the Chair was led to say that THE SUN also seemed to think that the Farmers' Club was not a body of practical agricultural experts. The Chair invited THE SUN to be present at the coming ploughing match.

The member who had tried to make a speech seemed much humiliated, and explained that he had meant to say that it was a good thing to bring as many ploughs as possible to the club. He hoped that everybody who could would bring a plough. This explanation of the member was greeted with applause.

The Chair then said that it had to go down town, and the club shortly afterward adjourned.

Five members of the club went out to Mr. Cutter's farm at Little Neck on Thursday to test the plough from Vermont. Dr. Heath, the President of the club, was of the party. He afterward remarked, as they stepped from the train amid the peaceful and sunlit verdure, the great contrast to the roar and smoke and dust of the city. The Poet, who is four feet in height, was found at home. He drew on his Blücher boots and his overcoat, wrapped his throat in a muffler, and which he always wears with the collar turned in, and swinging an ivory-headed cane in his hand, accompanied his visitors to the field of contention. On the way Dr. Heath espied a cow in an enclosure, and remarked:

"Ah, there is a fine product of animal nature. That, gentlemen, is a cow."

"No," said Mr. Cutter, "it's a cow."

"Is it?" said Dr. Heath, shifting his spectacles; "I did not see her."

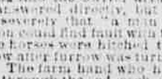
After crawling through one fence, climbing two, leaping a tremendous ditch, and charging through a wilderness of spelty pippin apple trees, the New York farmers, flushed and breathless, arrived at the confines of a large field. There lay the plough from Vermont, its slender coulter and its broad share gleaming in the sunlight. Its proprietors and a team of horses stood by.

"Beautiful!" exclaimed Dr. Heath, referring to the plough; and the other gentlemen of the city expressed themselves in various terms, to the effect that it was a fine implement.

Birds sang in the neighboring thicket, the ears of the farmers caught faintly the melodious cawing of five crows winging their heavy flight far above, distant field, the grounds of barn yard fowls drew near to learn if any of the visitors perchance had brought along a few kernels of metropolitan corn. Farmer Martin seemed pleased at the trusting approach of the fowls, and attempted to palm off upon them some choice bits of apple skin, which led Dr. Heath to remark upon the gentleness of the creatures. Everybody looked indignant at this, but it had the effect to set off the Poet, who said:

"The pot now thickens,
He feeds the chickens."

The farmers turned themselves to the inspection of the plough, the share, the boiler, shifts, flying straight in the face of the great enthusiasm which that implement awakened, ventured to ask if there was any danger of stones getting into the swivel arrangement. He was not answered directly, but Dr. Heath said to him severely that "a man with a lively imagination should not plough where stones were thrown up by the share." The horses were hitched to the plough, and furrow after furrow was turned up by the noble tool. The farm hand who held it ran beautiful lines through the sod, each one as straight as a die. Then Dr. Heath took the instrument in hand, and it was a wonderful and beautiful sight to see the honest man, who many years had not followed a plough for forty years, trot in his patent leather boots along the furrow, the reins over his back, and his tall hat and gold spectacles bobbing in response to the violent and spasmodic motion which the playful horses gave to the plough which they took in tow. The furrow which he produced ran with mathematical exactness in this shape:



The Doctor did not plough long. With a luminous smile and what breath he had left he said that he did not care to run the thing into the ground; and after Mr. Cutter had recited a little more impromptu and remarkable poetry, the party climbed over a fence and said down a steep hillside to a cider mill, where they said farewell to the Poet, with a number of times, and then returned by way of more fences and a field of devil's tickers to the Poet's home.

Mr. Cutter had been to Palestine and other places, and in his travels has secured a great number of curious things, which are strewn with amazing prodigality and in picturesque confusion throughout his house at Little Neck and four other houses which he owns on Long Island. He has five antique clocks, two without anything inside; buckskin foxhunting breeches from England, which he wears occasionally; Moorish slippers and Turkish fezes; spinning wheels, flint locks, swords, and warming pans without number, and infinite matters besides. Mr. Cutter, in his hours of leisure, loves to wander among these things, which he designates, collectively, as "old antiques," and he always with pride shows them to visitors. The farmers wandered delightedly through all the rooms, and finally, each with a Turkish fez on his head, sat down to the Poet's dinner. This consisted of chicken pottpie, beefsteak, and numberless charming vegetables, and the farmers proved that they loved it, and when they had finished it their bearing was stately, and their gait was slow. As in the plough from Vermont, and agreed that there never was such another. One of the farm hands, however, who had assisted to run it, expressed himself concerning this remarkable implement, as follows:

"I don't seem to me," said he, "as if 'twas such a body land enough, for I dessay after it's broken in it 'll be about as good as the ones we have around here."

Catching a Rat Under Difficulties.

From the Boston Globe.

A cat, a rat, a pretty and stylish young lady, and an interested and valorous clerk form the dramatic personnel of a narrative that happened in one of the most fashionable dry goods stores in this city, located on Washington street.

One day last week a cat brought up a vigorous rat from the cellar and leaped with it into the shop. Suddenly it made its escape, and almost simultaneously the persons in the store were startled by a feminine shriek emanating from a pretty young lady who had been in the act of lifting one of a pair of shoes from a shelf and disgust on her face bore ample testimony to the truth of her assertion. "Oh, heavens, something has bitten me!" One of the clerks, who is noted for his courtesy and gallantry to the fair sex, and whose identity will be effectually concealed under the name of Sandy, sprang forward and grasped the lady's dress skirt at a point just behind the left knee, as she stated, the missing rat, who had there sought an asylum from his feline foe. Mr. Sandy held him tightly, and finally his victim was removed from behind the dress and dashed on the floor. The lady fainted from sight and nervous strain, but by the kind attention of those present she was soon revived and able to depart, which she did, but not without first learning the name of her preserver.

For a day or two after this Mr. Sandy was subjected to a great variety of teasing remarks from his fellow clerks, some even declaring that he would most have rats caught and brought home, and other remarks equally as natural and unsolicitous. On the third day, a large package was left at the store of Mr. Sandy, who refused for a long time to open it, being apprehensive that the already jokers had sent him a half dozen rats of assorted sizes. His curiosity eventually triumphed over his fears, and, amid a crowd of expectant clerks, he opened it. As all present, the package was opened and was found to contained an elegant and costly cigar stand, fashioned in the form of a cat, and also a note from the female jokers admired and thus courteously and daring rewarded.

A Victim of Life Insurance and Whiskey.

From the Harrisburg Patriot.

Henry Stewart, the aged and decrepit colored man to whom so much insurance was said to be stealing, died at the residence of his brother, William Stewart, on Second street, on Saturday night. It is said that ever since he gave his company a policy consideration to age the applicant for insurance on his life has not seen a sober day, unless perhaps it was during the time he was in the army. This whole life insured has been a drunken state, was furnished by liquor selling policies, and several saloon keepers had policies on his life. It is said that he drank so much last spring he was met at night on Second street by two men who gave him a pint of whiskey. The love of liquor was one of his failings, and that night he drank all of the pint, then went home and died. He was seized with symptoms of poisoning, and lay ill for several days. Since that time he has declined in health. The amount of insurance on his life varies, it is stated, from $2,000 to $10,000. It is said an effort will be made to prevent the payment of the policies. Stewart was over eighty.

FANCY STONES IN DEMAND.

SUPERSEDING THE DIAMOND FOR RINGS AND PINS.

Twenty Different Styles of Rings Bought by a Cuban—One Worth $20,000—A Ruby Worth Three Times as Much as a Diamond—Some of the Jewels in Collections.

"There is a remarkable demand now for fancy stones," a salesman in a large jewelry house said, "and, strange to say, by gentlemen. Styles in our business seem to come around by decades. Ten years ago you could hardly find an American gentleman of taste that would wear rings and studs of fancy stones, but now the outfit of a man of fashion is not perfect without them. Sapphires, rubies, the amethyst, the topaz, the emerald, cat'seyes, the aquamarine, and garnets are some of the stones in demand, and there are others equally in demand, although not so valuable. Rings are thick and heavy, plain, some hammered, with the stones set in the body of the ring. In this way diamonds, sapphires, and rubies are set, and a very fashionable setting is a cat'seye in the centre, with a diamond and a ruby or an emerald on each side. Ladies' rings are made in the same way, only the stones are set all around the ring in many cases."

"Are the gentlemen's rings expensive?"

"That depends on the size of the stones, their quality, &c. I've sold to a well-known Cuban more than twenty different styles of rings. One of a diamond and two emeralds is worth about $20,000, and the others are worth more than $5,000 apiece. The diamonds are rare old India gems of great size and purity, such as you cannot buy every day. But extremely handsome rings with two or three stones can be made for $50, and so up to $50,000. Which is the most valued fancy stone? Well, the ruby is the most in demand, and really the richest of them all. They are often more valuable than diamonds of the same quality. When the gems of the famous collector Drée were sold, a two-carat diamond sold for $448, and an Oriental ruby of the exact weight brought $836. I will give you for a perfect ten-carat ruby nearly three times as much as I would for a diamond of the same size. Another ruby in that collection, of a little over three carats, was a bargain at $2,604."

"Is that not an extreme price for them?"

"Oh, no. We can sell you a ruby for any price. In olden times they were in very great demand, and the King of Visapur is said to have paid $14,000 for one alone. This was cut, as you see these cat'seyes are, round, or *en cabochon*. There is a ruby now in the crown jewels of Russia valued at $50,000. Many of the ancient stones have been impaired in value in our eyes by being engraved, but it was an immense work, on account of their hardness and the risk in cutting such valuable stones. I doubt if there is a large engraved ruby in New York, but in the Oliscalchi Museum there is a rare one, showing Ceres holding an ear of corn. Another in the collection of the Duke of Orleans is cut in the shape of a heart, and with its rich, wondrous blood color, is a magnificent jewel. On engraved stones is a head of Greek type. The stone is called a spinel ruby. This, the Balas, and the Oriental, are quite different. Here are the three varieties uncut. You see the spinel is a remarkable poppy red, while the Balas has a violet or rose tint. They vary, however, and have been found white, like this white sapphire, and even bluish-gray.

"In what other particular do they differ from the Oriental?"

"There is a difference in the crystallization. The primitive form of the Oriental ruby is that of six-sided prisms, while that of the two others is like the diamond—octahedral. There is also a chemical difference. The Oriental stones that are most valuable are a corundum, composed principally of alumina, while in the two other varieties only about seventy per cent. of the stone is alumina, the other thirty being magnesia. The peculiar tints are caused by the oxide of chromium, that does not form part of the Oriental stone. Rubies have been successfully imitated, but the spurious ones are easily detected. Although at the present day their manufacture is a large interest, they are chiefly sold with rolled or cheap jewelry. Some of the finest ruby ones are made for exceptions. They are made of glass with about fifty per cent. of oxide of lead. This is called strass, and is the basis of nearly all imitation stones. To obtain the different tints, different oxides are used with it. It's an open secret, and I'll give you the recipe how to make a ruby strass. The ingredients are 100 parts of silica, 38.21 red oxide of lead, 53.9; calcined potash, 1.8, and parts of calcined borax, alumina, and arsenious acid. Melt 1,000 parts of this with 40 parts of glass of antimony; one part purple of cassius, and one in excess of gold, and you have the material. This, when hardened can be cut up into rubies of any size and shape. But one of the best deceptions was produced by a skilled workman in Italy years ago. He took for a base crystal, and covered the surface with thin plates of the real stone, sticking them together with a glue of the same color. Hundreds of these stones were put on the market, but finally the old fellow was caught. Some of the imitation diamonds are made after this fashion.

"There is a great call for sapphires," he continued, sorting out a handful of the rich gems on velvet cloth. "The ancients gem the Greeks dedicated to Apollo and no wonder. It's a glorious gem. There are four sapphires known to trade—Oriental, Brazilian, Fay, and Water. The first three are real sapphires, but the last is a quartz-like production filled with an oxide, and has no special value. The Oriental stones come from Ceylon, Pegu, and Brazil. Look at this through a microscope."

The stone offered was a six-sided prism, and myriads of chalky lines or projections horizontal to the plane of the stone could be seen. They resembled the rich lines or shafts in Labradorite or feldspar highly magnified.

"They are," the salesman explained, "lengthened vacuities accidentally left in the structure of the stone at the time of crystallization, and the light striking upon them produces the effect you see—a white star. Great numbers of a green tint are sold, and called cat'seyes. They differ in color from the Oriental stones. In them threads of white asbestos catch the light, and the star, as you see, seems to float in the stone. These, mounted with rubies, sapphires, or diamonds, are very fashionable. One of the largest sapphires is now in the Paris Museum of Natural History, and has quite a history. It was found in Italy by a poor fellow and brought to Rapoli, the Roman jeweller. He sold it to a German prince, who in turn parted with it to Perret, a Paris jeweller. It weighed 131 1-6 carats, and he received more than $18,000 for it. One of the finest star sapphires known is owned by a well-known gentleman of this city. The day who was until recently Miss Burdett-Coutts possesses a pair of them valued at nearly $140,000."

"Are sapphires also imitated?"

"Yes, the same 'strass' is used—1,000 parts with twenty-five oxide of cobalt. Here are some fine specimens of amethyst and topaz. There is scarcely any demand for them at present. The topaz called the Grand Mogul, weighing 157¼ carats, was purchased in Goa for $150,000, and among the old crown jewels of France there was an amethyst of intense violet color, and hollowed from a vase of Greek type. The stone is called a spinel ruby. This, the Balas, and the Oriental, are quite different. Here are the three varieties uncut. You see the spinel is a remarkable poppy red, while the Balas has a violet or rose tint. They vary, however, and have been found white, like this white sapphire, and even bluish-gray.

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