A NIGHT IN A LIGHTHOUSE.

FROM SUNSET TO SUNRISE IN THE TOP OF THE FIRE ISLAND TOWER.

Mr. Seth Hubbard and the Work that he does for the United States Government—A Giant in a Crystal Cone—Silence and Thought, and an Altered Long Nap by the Reporter.

"Let's hurry," said the reporter, "or the sun will be down and the lamp will be lighted before we can get to the top of the tower."

"No danger of that," replied Lieut. McClellan, U. S. N., and inspector of life saving stations. "A sun the size of that will take some time to get out of sight, and anyway we could beat the sun, we running up and the sun going down. Often at sea I have watched the sun sink out of sight, and then got another glimpse of him by running up the rigging."

This proposition and the reply were made a few days since as the persons named, just before sunset, were approaching Fire Island lighthouse—the first point on our shores which the incoming mariner from Europe espies at night. For twenty miles its friendly ray is flashed at intervals of sixty seconds across the ocean, and its usefulness is only thwarted when the fogs come down thickly, wrapping the glances of the great beacon in an impenetrable veil. Just at the moment of sunset each day its services are called into action, and its beneficent lustre is not permitted to die out until the sun has crept at morning above the opposite horizon. During all the years of this century this tower and its predecessor (established in 1815) have turned through the years of darkness uninterruptedly a watchful eye of fire over the outstretching ocean and the unit incoming, at once warning of a coast that is frequently beaten by fierce storms and giving assurance of the humanity of a near great harbor and point of general destination.

At the time in question the sky was overdrawn with lead-colored clouds, save that a clear band was left for some distance around the western horizon. The line storm was beginning; the wind whistled over the narrow and barren stretch of beach, and the surf was high and noisy. The sun looked like a dish of dull copper, and, exaggerated by the atmospheric conditions, seemed as large around as the basin of the fountain in City Hall square. Its lower edge was almost touching upon the low shore lining Great South Bay to the north and west. The lighthouse rose in the shape of an elongated bell to the height of 150 feet above the sands. It was built of narrow bricks and painted yellow. Its concave sides were pierced at intervals by slender loopholes like those in the tower of a mediæval castle, and at its base stood a broad and stout house of brown stone, tight and strong as a fortress, and with an arched stone gallery facing the sea.

Mr. Seth Hubbard, the keeper, was up at the top of the tower, one of his two assistants said, about to light the lamp. A tube ran from the earth up to the lantern, and through this the keeper was blowing if the wicks were caught to go. An affirmative answer came down from the sky. From bottom to top of the tower, filling it, ran a spiral stairs made of iron. The Lieutenant and the reporter ascended, stopping at intervals of fifty of the high steps to catch breath, and to hear that they were near the top, which was not to be discerned until it was close at hand. At last through a trap door in a plank flooring the shining of a lantern became visible, and the voice of Mr. Seth Hubbard bade his visitors welcome.

"Come up," said the keeper, extending a hand of assistance for the surmounting of a final step ladder. "Bless me," he added in a tone of honest surprise, "you're out of breath. There's everything in getting used to it, I guess. My wife don't think anything of trotting up the tower with a scuttle of coal."

The keeper was a broad-shouldered and sturdy. His nose was covered to the eyes with a reddish, piratical beard. He wore a blue flannel shirt, caught at the neck by a black cravat, a pair of loose breeches absolutely dependent for their support upon a pair of suspenders, and a waistcoat with no back, which was open, and which seemed to be worn simply for the convenience afforded by the pockets as receptacles for a pipe, tobacco, and matches. He wore no cap or hat, but his head had an ample covering in a thick unshadingly crop of black hair, which merged with his beard, the whole having only a small space of face in the neighborhood of the eyes exposed to view.

Mr. Hubbard was just about to light the great lamp. He held in his hand a pair of small metal lamps, shaped like sauce dishes or boats, with raised handles at one end to lift upon the fingers, and tubes and wicks extending from the other and five nozzles. These he lighted readily with a match, and ascended into the final story of the tower, the one in which the lantern was contained. The lantern, a crystal cone eight feet in height and five or six feet in diameter, was surrounded by a brass cavalcade. The keeper passed inside of it from behind, and holding his burning cruses, one on the forefinger of each hand, kindled in a minute the four wicks of the great lamp, which were distributed in one within another like rings on a finger. He consulted then his clock, and at the moment when, according to the Marine Almanac, the sun should have gone down, he pulled a string and the canvas hood separated and rolled upward, leaving the great lantern in full view. The lamp within burned steadily with a clear light equal to that of a thousand candles. The keeper led it with last oil by means of a small metal pump, and regulated the flame by means of dampers let into the cylinder until it stood at the right pitch. The lantern revolved by a weight propelled by clock work and regulated by the speed of a governor, the power being the steel at the lamp. Every eight minutes the huge, cut-like mass of crystal performed one revolution. Its circumference was divided into eight pear-shaped sides. Each side contained in the centre a convex lens or bull's-eye one foot in diameter. For the rest the surface was cut into transverse prisms, so set as to catch and bring each ray from the lamp upon the lenses. Each of the eight lenses then caught the concentrated rays and sent them intensified outward in a world-defined band of light. The effect to a point, one of these bands of light would fall athwart every minute. The effect seen at sea would be an effulgence, seemingly debilitate in its growth, breaking through the dark mass at minute intervals.

Mr. Seth Hubbard's visitors stood on the landing at the base of the lantern, between it and the thick glass windows which constitute the sides of this top story of the tower. The strip of beach below, dividing the ocean from Great South Bay, looked so trivial that it seemed as if it might be annihilated by a sudden angry lashing of its mass. The surf ran along its outer edge in a milky line until it was absorbed and lost in the darkness. Beyond the surf the space was black as ink; not a star or a ship's light was visible, and the eye could make no division between the water and the sky. The fancy of the beholder was startled, and it was startled hardly less by the picture within—that of the giant in the lantern.

His size as the lenses made him was a matter to marvel at. He was as big as the giant Blunderbore, and he looked as Gulliver must have looked to the little men of Lilliput. The strands of his beard were each as large as a steel knitting needle, and his hands were as big as hams. He pumped the lard oil into the lamp reservoir and adjusted the dampers in the cylinder and regulated by the chronometer the movements of the clock clockwork to a nicety.

"Now wash your bare fingers, if you please, but wipe your glove or your handkerchief as clean as you like," he said, as the reporter looked curiously one of the fat bull's-eyes upon which Mr. Seth Hubbard had took an oath.

The reporter then descended and clambered up into the lantern with the keeper's permission, when Mr. Hubbard shunted at once into a long talk and Lieut. McClellan, who remained outside, grew instantly intent on Fire Island.

The party descended to the lighthouse. The keeper opening into the lower tower was closed. The keeper offered chairs, of which there were just enough for the trio, counting the wood box as one. This is the room in which the men who do the light pass their hours of vigil. It was lighted by a chimney less long, but wide as a stack, and filled the apartment with a pungent smoke. Three circular windows pierced the wall at the height of five feet from the floor on the landward side. Being only one foot in depth, and the wall at this point being four feet in thickness, they looked like caverns built up to them like the horse of cannon. Thick, immovable lights of glass were set in them, and looked like black eyes in the white wall. A square stove well rusted from the fire blazing contents, and through its cracks assisted the oil lamp somewhat in the illumination of the room. For the rest in the way of furniture there was a table supported by a dozen books, and a box that looked like a refrigerator.

"Is that a refrigerator?" was asked.

"No, no," replied Mr. Hubbard, taking his pipe from one, filling it from a second, and lighting it with a match obtained from a third waistcoat pocket. "It wouldn't be in reason to suppose that box was a refrigerator, nor is it a refrigerator in point of fact. We keep in there," he continued, as a sense of ignorance welled up in the questioner and became painful, "an extra burner and a student's lamp, to be ready in case of accident."

Further questions drew from Mr. Hubbard the following facts: The great light had never accidentally gone out at night, and consequently the extra burner and the small proxy in the shape of the student's lamp had never come into requisition. Every three hours the clockwork had to be rewound and the lamp reservoir had to be replenished by means of the pump. Through the trapdoor above the keeper could tell by the movement of the shadows cast by the revolving lantern on the wall exactly the pace of the great crystal cone, and at a glance could tell whether that pace needed to be checked or accelerated. The dull, whirring sound of the clockwork—the only sound ordinarily to be heard in the keeper's watch room—was another means to indicate whether the lamp was throwing its flashing messages regularly abroad. He could sit and read, and a change in an incessant flitting shadow or a variation in a constant monotonous sound would be an instant warning to him. He had two assistants, and the night was divided into watches, as on board ship. He was on duty from sundown until 8 o'clock, an assistant from 8 o'clock till midnight, another assistant from midnight till 4 o'clock, and the keeper himself again from 4 o'clock till daylight. The tower swayed under the force of high storms; a lantern hung upon a peg in the wall would swing back and forth, and the keeper's wife sitting with him in the watch room on a stormy night had been made "seasick." Sea birds occasionally, attracted by the light, dashed against the windows protecting the lantern, shattering the stout panes and killing themselves.

The reporter's request to be permitted to sit up all night in the watch room and think was readily granted. The keeper went, and his assistants came and went in their turn, and the keeper came again.

"You have been asleep," he said, kindly.

"I have been deeply impressed by the silence and weird mystery of this place."

"No doubt," Mr. Hubbard replied, drawing a series of rapid whiffs on his pipe and enveloping his strong head in a cloud of tobacco smoke. "I have slept in this room in spite of myself, but never more than a minute at a time. I am going to put out the light, and I woke you up, thinking you might like to see the operation."

The reporter followed Mr. Hubbard into the lantern and beheld him extinguish the Fire Island light in the manner in which lamps are shut off or nearly. The dawn had come and the landscape had grown gray. No sun was to be seen. The whole sky was lead color, and the line storm was whistling with vigor and rolling up a tremendous surf along the coast.

MAKING TIN TOYS.

Boys and Girls who Cut and Paint Them Instead of Amusing Themselves with Them.

Among the new toys made to meet the demand by children of something that has motion is a whirligig, or a bar to which a figure is fastened, that is drawn along the floor. The plan has been developed in a variety of ways. Horses revolve in circles, bears dance, soldiers evolute, and velocipedes run about. Gymnasts circle around a bar and strike a gong with weights that hang from their feet. Another novel toy is the water mill. It consists of a large tin tank, which lets out a thin stream of water on an overshot wheel so nicely balanced that it is turned by a drop of water. As long as the water runs the wheel turns swiftly. The manufacturers imitate any good thing that the European manufacturers may bring out. Of this kind are the tin soldiers, the most of which have hitherto been imported.

About two hundred hands are now employed in the manufacture of tin toys in a factory on Avenue D. Of these 125 are girls, 35 boys, and 40 men. At other seasons of the year the force is increased. A great part of the material used is scrap tin bought from tinsmiths and tin manufacturers. It is cut into available shape by shearing machines worked by girls. The complicated tin toys go through a variety of processes before they are completed. The machines can be explained by describing the manufacture of a jockey on a horse, moved on a tin circle by a grooved wheel. The horse is made from a piece of tin of the right size, that is pieced in a stamping press which stamps out the form of the body, head, and legs. The tin plate bearing the stamped horse is then placed in a cutting machine that cuts away all the waste tin outside the outline of the figure. Another machine cuts away the tin between the legs. The result is one-half of the horse, and the other half is made in the same manner by a reversed die. The two sides go to the solderer, who has a pan of liquid solder before him. He puts the two sides neatly together, dips the edges of the body, tail, and head into the solder, and the horse is completed. The jockey is made in a slightly different way. Unlike the horse, his limbs do not be in the same plane. His legs must spread apart so as to bestride the horse's back. The tin is first put in the cutting stamp, and a die cuts out a flat figure. That then goes to the stamping press, which presses out the curves and at the same time gives the right direction to the legs. The platforms on which the toys are placed are cut out by dies. To form the circle a long band of tin is passed through a rolling machine that gives it the proper curve. The ends are then soldered together. Ferrets or supports are needed they are made by a folding machine which folds the tin into narrow stiff strips. All these different parts of the toy are made by different workmen. Near the cutting and stamping machines are piles of tin of the horses, of dogs, and heaps of all kinds of animals. The various completed parts of the toy pass into the hands of the men who put them together. Their chief outfit consists of a small furnace, two soldering irons, and a bar of solder. The soldering of the toys goes together with amazing quickness and dexterity. The toy then goes up stairs to the painters, who are mostly girls. Some of the toys which consist of one figure are dipped in a tub of paint, and the finishing touches of hair, eyes, &c., are put on afterward. The elaborate toys are more care. The girl painters have broad camels' hair brushes and pallets of all colors, mixed with varnish. One takes a toy, and in a very short time paints the platform a lively green, the horse brown, and the jockey varied colors. The toy is then set in the drying room, in a temperature of 200 degrees. When dry, it goes back to the painters, who put on the finishing touches, such as the harness of the horse, the hair, eyes, and shoes of the jockey, and other little things of the kind. An enlarging is put on by stencils. The girls who do the painting are from 12 to 18 years of age, and they earn from $5 to $10 a week, being paid by the piece. Tracer, when painted, goes to a workman who puts the little iron wheels on the platform. Of these wheels the factory uses sixty tons a year, and the tin goes an inch and a half to a sheet for the trade. Another workman fastens the cord on the grooved wheels, and the toy is complete. It is then packed up by half dozens for shipment.

Another branch of the toy business is the making of pewter tea sets. A set that consists of six cups, six saucers, six spoons, a sugar bowl, a cream jug, and a tray, is sold for 4 and a slop bowl, of a fair size, sells for eight or ten wholesale and fifteen or twenty cents retail. The cups and spoons are cast in small iron moulds that are held in the hand. Pitchers and teapots are made by dumping. The moulds are made in the shape of the article desired. It is filled with molten metal, and after a minute's delay a part of the metal is poured out again. That leaves the teapot hollow; otherwise it would be solid. The castings go to a boy, who cleans off all superfluous lead. The metals go into the lathes, then, and the sides are turned and polished. The spouts are put in the same manner. Attached to the factory is an artist who draws designs of men, animals, and various parts of toys. They are taken to the machine shops, where stamps and dies are made from them. There is a curious machine, called a crimping machine, that puts a tin bottom on a hollow tin cylinder as neatly as if somebody did it with a jack plane. Another machine stamps out a network pattern from a sheet of tin. The pattern is used in making large kettle baskets, for which there is a large demand in the West. Girls make all the paper boxes used in the factory, and girls do the packing. Boys, as a rule, run the machines. Men put the toys together and make the dies.

He Was a Well Spoken Boy.

At about noon yesterday, as a boat was about to start from Fulton Ferry, Brooklyn, the attention of persons intending to cross the river was attracted by two newsboys who were scuffling in front of the large gates that had just been thrown open for the exit of vehicles on the incoming boat. The smaller of the boys struggled manfully, but his opponent had gained a decided "mastery," and was about to make the most of his advantage when he was interrupted by a stern and commanding voice, as a middle-aged gentleman who was evidently the owner of the boys came up and separated the lads. The gentleman, addressing the larger boy, said with great dignity: "Young man, I am ashamed of you. A very good boy, sir, I should say, and yet you have allowed yourself to be drawn into a disgraceful quarrel. Let me tell you, sir, that a good name is worth more than all else in this world, and that it is the duty of every man, woman, and child to do all in their power to keep it free from stain. Now, I hope that this will be a lesson to you, and that you will be more careful in the future." The boy, who had been quite pale, but who had listened to the speaker with a smile of amusement on his face, then said, in a very low voice, addressing his opponent: "I told you I was a good boy, didn't I?" The gentleman, who had not heard the remark, turned to the boy and said, in a tone of surprise, "Why, what do you mean, sir?" The boy, who was now very pale, but who still had a smile on his face, said, in a