

THE SAMURAI of the WARRIORS in the ARTS of AMERICANS

**TATEWAKI
KAWASAKI**
Master of fencing
in Tokio College,
on a tour of the
World to intro-
duce the Japa-
nese method of
Sword Combat.

ANOTHER new fad has come to New York—Japanese fencing. If you hear a clash of armor and clang of steel as you saunter through the brown stone districts uptown, you are likely to see a young man making lessons in palace stables and studios where the famous two handed swords to the samurai are at work. The weapon always has been described as formidable in the hands of an expert. The word "samurai" means knight, and for three thousand years has been the ideal swordman of Japan—always using the terrible two handed blade of his fathers.

A descendant of the illustrious band of some defenders is not in this country. Teaching fencing, Tatewaki Kawasaki is his name, and he was instructor of fencing in Tokio College, Japan. Among his various weapons are thirty or forty big swords now used by proficient pupils. Young Edward H. Harriman among them.

Accompanying photographs show the ponderous character of the double handed Japanese sword, and the serious business of handling it contrasts vividly with the light and airy play of rapiers in the hands of European experts.

Here is what Kawasaki has to say of the Japanese art—"ken jitsu." It is called—"Fencing is the outward and spiritual sign of our national spirit. The ordinary sword is about two feet five inches long, but all lengths are used. The old time warrior handled a weapon as long as six feet. The blade is about an inch wide with an iron backing on which a face of steel is forged.

"The entire life of professional swordsmen was formerly devoted to warlike exercises. These men, too, only formed a class of themselves, but had many rights and privileges, which were maintained at the point of the sword.

"Every samurai had to undergo a thorough and rigorous course in fencing. It was his sole education. And so, from generation to generation, the science developed until it became marvelous as an exhibition of dexterity and science.

"Here is the difference between the Japanese and European fencing. The Japanese sword is grasped with two hands. While fencing it may be transferred from one hand to the other. From time to time the fencer makes a jump, to change his position—the position of his feet, the left foot falling back, the right foot advancing, or vice versa.

"This rapid change is a marked feature of our fencing. As in the American system of boxing, the Japanese fencer is in a continual state of motion. Great agility and strength are demanded. The Japanese have not only great muscle power in their legs, but they can use it in a way probably unknown in other lands."

Mr. Kawasaki said a vital feature in Japanese fencing is to develop bravery—facing the opponent. Sometimes it is possible to frighten him at the outset and thus insure defeat before the contest has really begun.

Confidence is necessary in fencing. Even in a European bout a clever man seeks first to discover the state of his opponent's mind. In Japanese fencing, his fears accordingly. A man who could whistle a gay tune in the middle of a battle would make a dangerous opponent in fencing.

"In fencing we depend more on the fierce attitude and threatening glance than on direct the blow. When the samurai were the trained military men of old Japan knights, the sole vocation of the knights of Western civilization have prevailed, and recently Japan abolished the feudal system and prohibited the carrying of the sword.

many other things, often accomplishing wonders in the way of intimidating the adversary. If he shows no fear, then the fencer should assume an attitude of offense. The sword must be held with the right hand close to the guard, the left hand lightly grasping the end of the "grip." The third and fourth fingers of both hands are used for holding the sword, the first and second fingers being used to control or direct the blow.

"This is quite different from the European style, where the thumb is used to

manipulate the sword, and consequently the blow is much quicker and more effective. These points are important in sword fighting, especially at night, no matter how strong or agile the assailant may be.

"There is no reason why any one, man or woman, boy or girl, should not be able to defend himself and punish the offender in case of a sudden attack in a lonely place, especially at night, no matter how strong or agile the assailant may be.

"European fencing excels only one side of the body. Japanese fencing requires a man to exert every part of his anatomy. All the muscles are evenly ex-

ercised, both arms, both sides of the chest, every muscle of the chest, hips, legs and feet. In a word, Japanese fencing calls into play the entire body and system of muscles—calling upon a man to exercise his bodily strength besides keeping his mental faculties alert.

"All that one requires with a knowledge of Japanese fencing is a stick or cane to repel the attack. As a matter of fact the

use of the sword for fencing practice has been abolished in Japan. For a time we used hard wooden swords in our training. Even then so many bones were broken that now the government uses only splintered bamboo, which makes much noise and seems formidable, but does no harm. A man with a few weeks' instruction could protect himself against the most vicious thing or professional bludgeon who might attack him by day or night by using only a stick or cane.

"I merely make these suggestions for what they are worth and have no personal interest to gain, as I am about sailing for England, where I am to open a school of instruction with the support of men of wealth and eminence."



THE THROAT THRUST



STOOPED, GAVE A SIDE CUT AND SAVED HIS HEAD



DEFENDING BAYONET HIGH THRUST



PHOTOS BY COLEMAN



DEFENDING HIS HEAD

sword the movement is much shorter than for the one-handed stroke, and consequently the blow is much quicker and more effective. These points are important in sword fighting, especially at night, no matter how strong or agile the assailant may be.

"The European style of fencing as practiced in New York is, of course, good enough in its way, but our Japanese system is entirely different and we claim far more effective. It has been brought to a high state of perfection among us, for we are an old people and have loved sword play for more than three thousand years, so we ought to have developed something worth talking about in these centuries.

"What is most needed in America is a sensible ordinary man to master the highest art in fencing is mental as well as physical culture. In Japan our long years of training are not devoted to physical development alone, but to educating the mind, for it is a man's ability—a question of having mental control of himself—that makes him supreme in fencing.

"I think I know something of the Amer-

ican ideas that prevail, something of the people and their mental stamina. I began here as a student, took a classical course in a school near Rochester and am familiar with American characteristics and the capacity of young men for knowledge and ideas. They take to Japanese fencing with great success.

"I might also say that I am familiar with European fencing, having studied under Camero Negro and I can speak with authority on the subject. I know that in St. Louis I taught during the whole Exposition and found Americans quick to learn our art of fencing. They master new ideas with ease. I taught E. Percy Noel, son of a banker, in three months so that he could defeat the best European fencer it would be a good thing if Japanese fencing were taught in West Point and in all military schools—even in ordinary schools, simply as a means of defense.

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Cost of our Lighthouses.

ONE of the great expenses which our government has to meet is the sum which is expended annually for the maintenance of the lighthouses along some five thousand miles of coast line. Of this amount nearly half a million is required to purchase the supplies for the lighthouses, \$300,000 for repairs and \$300,000 for the maintenance of lighthouse vessels. The United States has now about fourteen hundred lighthouses, each with a crew of about six men and each man's pay is fixed by law at not less than \$600 per year. A little multiplication will show us that a sum of about \$800,000 is required yearly for this service alone. Congress has been fairly liberal in the matter of appropriations. Another heavy expense has been the installation of modern lights to take the place of the antiquated illuminating apparatus.

The Lighthouse Board has under its care more than nine thousand "aids to navigation" of one kind or another, including lights, beacons or signals, which are operated by steam or hot air. More than a third of the number are designed to give warning at night. It requires an army of four thousand men and a fleet of fifty vessels to maintain this great illuminating system, but the lights flash out along the shores in the dusk of evening with as much regularity as though they were operated by clockwork.

Old-fashioned towers of brick and stone are being changed to the steel tubular structures of great strength as they become situated in dangerous locations. They are finally being raised on their hazardous sites after years of sagged and tilted walls and wavy and tilted top decks. The reports of the workmen who have roared these things at low water levels in mid-ocean read like romance. Hundreds of men lose their lives at times they have seen the work of years swept away in a single night or have been compelled to live on some bleak rock, cut off from all communication with the world for months at a time.

It is by no means exceptional for the government to pay more than \$100,000 for the electrical apparatus of one of its aids to navigation. The electrical apparatus of one of its aids to navigation with lights of sufficient power to send the rays over

Picturesque Llama Trains of Bolivia.

THE most picturesque mode of transportation in the world is doubtless that of the llama trains which one can see from the car windows in a journey across the Andes. The railway has been completed for several years but the pack trains of burros still compete with it for the transportation of the natural products from the interior and the carrying back of merchandise of all sorts from England, France and Germany. The burro trail shortens the distance nearly a hundred miles for the unimproved little animals are able to climb mountains that are impassable for railway trains.

The arrieros in charge of the llama and burro trains are usually accompanied by their entire families. Their lives are spent in coming and going across the desert, so it matters not to them how long a time is spent on the journey. The animals are the capital of the arriero and the desert is his home. His wife helps him to drive them, and at night, wrapped in their ponchos, they lie down by the side of their beasts, though the air is often so cold that they form in the little streams beside them. They are often overtaken by snowstorms in the mountains, but they do not seem to suffer from the cold and are rarely known to perish from it. The South American bundles all his blankets about his head and keeps his feet cool. The North American keeps his feet warm and exposes his head and arms. The children who are too small to walk, sometimes little ones as low as three days of age, ride on the donkeys when their parents are driving the train. They are born by the wayside, like the lambs of the flock, and there is little more made with the one than the other. Their first years of their lives are spent in the penner on the side of the burro, where they roll among the cooking utensils and blankets and surplus clothing. Sometimes they are carried in a poncho on the burro's back.

The pack trains make the journey from the seaports on the west coast of South America to the basin lying between the ranges of the Andes in from twenty to thirty days. All the shipments which in former days were seen on Lake Titicaca were carried piece by piece on the backs of llamas and put together on their arrival. It was the same with the machinery which is used in the mines. The railways have changed all this.

The burden which the llama will carry must not exceed one hundred pounds. It makes no difference of what his burden consists he will carry it over pathways where no other beast of burden could find

Kite Flying as a Science.

WHEN a kite was flown without tails it was a new era was opened for it and the kite ceased to be a mere toy. The behavior of a kite in the air proved for one thing that many of our preconceived ideas of wind are wrong. There are vertical as well as horizontal strata of air, and a strong breeze is made up of little breezes, moving at different speeds and in different directions. These facts, which a kite's movements in the air disclose, account largely for the soaring and diving power of birds, who make instinctive use of every wind, soaring upward on upward air currents and flying against the main currents of the wind or breeze blowing against the general drift.

It has been found that a kite containing seventy square feet of supporting surface will exert a pull of from sixty to one hundred pounds. A big kite of this kind cannot be managed by hand, but the wire must be carried up from a substantial hand or steam winches or reeling apparatus. The steel wire employed in the experiment is the lightest and relatively the strongest material known, with a tensile strength at the point of breaking of quite three hundred pounds. In this experiment the kite is made fast with a long wire to the ring at the end of the wire is unswound from the reel, and when the angle with the horizon becomes small another kite is attached to give greater lifting power, and so on until the required elevation is reached. A pause is made at the highest altitude to allow the recording instruments to acquire the conditions of the surrounding air, the height of the meteorograph is calculated and then the steam engine is set to work to wind in the kite. In this way several hundred records have been taken. The kite has frequently ascended to a height of more than twelve thousand feet and at one time they reached the elevation of fifteen thousand feet, or more than three miles above the sea.

The amateur does not need such expensive outfits to do some very interesting work. He may become his own weather prophet by sending up thermometers to the clouds; he may tell the approach of thunderstorms by attaching barometers to the kite strings; he may draw lightning from the clouds, photograph in mist, signal with flags, or send off fireworks from an elevation where the effect produced is worth the labor involved.

A state of perfection has already been reached in kite photography so that it is possible to send up a camera and take a picture of any particular building or object with but a small chance of failure. One enthusiast has arranged a contrivance for taking complete views of the horizon. Eight or more cameras are arranged back to back on a curved platform, sent high into the air with kites, and all the shutters snapped simultaneously by pulling a string below. Many successful panoramic views of large cities have been taken with kites flown from the tops of high buildings. In photographs taken in mid-air buildings and scenes appear much nearer than they really are, and there is often a curious ground effect which is invisible from the ground when rising up into the sky.

There have been put to many ingenious uses in connection with sports. To keep partridges from rising and flying from cover where it is wished to keep them for shooting it has been found that the birds will not rise with kites hovering over their heads, doubtless because they fear attack.

Another interesting use of the kite is in line fishing. The advantage of fishing from a kite is that the fisherman may stand on shore while his bait is dropped far out at sea; also that kind fish are usually secured by seeing the line or bait near when the old method is used. For this sport strong kites are flown, the string carrying a strong pulley, through which the fish line runs. One end of the fish line is held by the fisherman on shore; the other, which is weighted, drops from the pulley at the point in the water where the fish is to be secured. At the moment when the fisherman feels the pull on his line, and the kite is quickly hauled in and the fish is secured in the same time. As there is practically no limit to the sizes of kites which will fly well, the fisherman has some interesting experiments in many lines where the kite may be utilized.

The care that the watches of railway men receive is shown in the regulations recently adopted by a Western railway for its employees. Seventeen jeweled watches are required, and they must be supplied with Braquet hairpins. The watches must be inspected every three months and must be submitted to the inspector once a week for regulation. No employe is permitted to set his watch or to change its movements unless it should chance to run down.