

so far that it is quite essential that their numbers should be multiplied by some artificial means. The ordinary processes of nature are too slow, considering the great mortality that must, of necessity, obtain among birds beset by so many enemies as our native songsters are from the moment of their birth until they reach maturity.

There has, consequently, been started a movement among the bird societies of the country which promises to make a complete change in the character of our woods, fields, and parks in a comparatively short time. There has always been a large importing trade in birds in New York, and thousands of Europe's best singers have been brought to this country annually; but these canaries, bullfinches, nightingales, and linnets have all been reared for cage life. They have found their way into innumerable pleasant homes, where their singing is understood and appreciated. New York's bird importing trade has amounted to many thousands of dollars annually, and, with the steady decrease in the numbers of our native songsters, it has expanded and broadened. To-day there are some half dozen large importing houses which make a specialty of handling the song birds of Europe, while retail traders are scattered all over the country.

But now the bird importers have a new demand for their stock. From all parts of the country bird societies and private individuals are purchasing the European song birds for the purpose of restocking the woods, fields, and parks of the country with little warblers. It has been found easier to import certain foreign song birds here than to attempt to increase the numbers of nativesingers by artificial means. In Europe the song birds are raised on a large scale for commercial purposes, and they can be purchased in quantities cheaper than our own native birds.

Some ten years ago the question was seriously discussed, "Can the European song birds be successfully introduced and reared in this country?" The only answer to this was a practical experiment. A number of nightingales and English skylarks were imported and turned loose in Connecticut and Massachusetts. Great expectations were entertained, but the experiment was doomed to failure. The birds were seen a number of times after they were given their liberty. Then they disappeared entirely. Another lot was imported and turned loose in the northern part of New York city, but, like the first importation, the birds soon died. This was so discouraging that for a time the matter rested. It was supposed that our climate was not suited to the health of these little foreign singers.

But it was hinted by some bird fanciers that the English nightingale was about the hardest of the European songsters to acclimate, and that there were many good song birds in the Harz Mountains which might find this country a congenial home. Following this, a bird society in far-off Oregon decided to make an experiment. Mr. Frank Dekun, a public spirited resident of Portland, was president of the society, and Mr. C. F. Pfluger secretary, and together they raised enough subscriptions to purchase a large consignment of European birds. The Web Foot State has some of the finest game birds in the world, but its woods have always been barren of song birds, and it was considered quite an achievement to stock the fields and parks with song birds from Europe that the Eastern bird societies had failed to introduce.

The first consignment was a large and representative one. There were three hundred pairs of song thrushes, skylarks, goldfinches, siskins, woodlarks, black thrushes, chaffinches, crossbills, black starlings, green finches, bullfinches, robin redbreasts, linnets, singing quails, goldfinches, forest finches, and both the plain and blackheaded nightingales. This large company of singers left Europe in perfect condition, but they had a rough ocean voyage, and a number of them died before they reached New York, and many others were sick and worn out. They reached their destination twenty-two days after starting from Germany. They were turned loose in the fields, woods, and parks near Portland. Beforehand, however, they were placed on exhibition in cages, and thousands of people went to visit them. Some of them, after they had rested a day or two, began to pipe and warble, and by the time they were given their liberty they were in a very tuneful condition.

Without waiting to see if this first consignment proved a failure or success, the same enterprising society had a second lot imported in the autumn of 1892. As it was considered dangerous to turn them loose just before a hard winter, this consignment of birds was wintered in a large aviary erected for them by the president of the society. The following spring they were given their liberty in the city park and the adjoining woods and grounds. The birds, upon being released, hopped about among the trees, singing and twittering joyfully. Then many of them gradually disappeared in the woods, while the finches and linnets took up their abode in the park.

The results of these two experiments were watched anxiously by bird-lovers all over the United States. If they should prove adaptable to their new home, it would be the beginning of a great movement for im-

porting European songsters. The following summer, the birds were not only found in the woods and fields, but many of them were building nests, and before another winter came around they had more than doubled their numbers. Since then they have increased rapidly, with but few exceptions. The woods are full of singing skylarks, woodlarks, linnets, and finches. The nightingales, however, did not do well, pretty conclusively proving that the Eastern bird societies happened to select the most difficult singer to acclimate. At first the range of the imported singers was limited to the woods within a few miles around Portland, but now they have extended to neighboring counties, and the skylarks in particular are found in plentiful numbers all over the State. These birds rear from two to four broods every season, and flocks of hundreds of them can be seen any day in the fields of the Web Foot State.

Next to the skylarks, the song thrushes and woodlarks multiplied the quickest, and then followed the starlings and the goldfinches and chaffinches. The most remarkable thing about these little strangers was their migration. When the cold winters swooped down upon the State, the birds took their departure to warmer climes. In October many of them were found in California, journeying southward in flocks. Later they appeared in Southern California; then some of them were reported in Mexico, and a few of them went as far south as Central America. But as soon as spring returned they retraced their steps, and never stopped on their way to breed until they reached Oregon and Northern California. Here they built their nests near the place where they had first been given their freedom, and every summer since they have returned to their first home as regularly as our native migrants. Some of them were hardy enough to withstand the rigors of our climate, and they wintered in the dense forests of the Cascade and Coast mountain ranges.

These birds are not so high priced as the cage birds which are trained to sing certain tunes and to live comfortably in confinement. They are wild and semi-wild singers, trapped in the woods for this purpose, and shipped to this country immediately. They would not live long in confinement, nor would the cage birds live long in the woods. By ordering them in numbers, the singers can be obtained as low as \$1 a pair for skylarks and woodlarks, while nightingales cost from \$5 to \$10 per pair. The chaffinches and goldfinches are 50 cents to \$1 apiece and the bullfinches a little more.

G. E. W.

THE UNIFORM OF THE SAILOR.

In the issue of the SCIENTIFIC AMERICAN for last week the reader will find an article on the "Uniform of the Soldier" which deals with the origin of the army uniform. We will now take up briefly the consideration of the navy uniform, and for our facts we are indebted to an interesting article in The New York Sun.

In the days of the Continental Army navy blue, red, and buff prevailed, but in the navy to-day the only colors to be seen are blue, white, silver, and gold. For many years the American naval officers had their uniforms lined with either red or white, but this was abandoned before the war of 1812. The records of the Navy Department show that the first American naval uniform was authorized by the Massachusetts Council in 1776, the resolution being adopted that the uniform of the officers be green and white, and that the colors be a white flag with a green pine tree and an inscription "An Appeal to Heaven." On the 5th of September, 1776, the Marine Committee met at Philadelphia and issued an official regulation. The captain's uniform should be blue cloth with red lapels, slashed cuffs, standup collar, yellow buttons, blue breeches, and red waistcoat. A midshipman had a blue laped coat, cuffs faced with red, and with red at the button and buttonholes. In full dress gold lace was introduced and red was eliminated. The coats were of dark blue, with white linings and white cuffs.

In the spring of the next year there was a further change, which is noted in some manuscript papers of Paul Jones, preserved in the Library of Congress, blue coats with white linings and white cuffs, narrow white lapels, red down the whole length of the waist, and, instead of the red waistcoat and breeches, white ones were prescribed. The regulations said that gold epaulets were to be worn on the right shoulder, the figure of a rattlesnake being embroidered on the straps of the epaulets, with the motto, "Don't Tread on Me." The yellow flat buttons on the waistcoat also had the impression of the rattlesnake and the motto, "Don't Tread on Me." Various portraits of Paul Jones, Capt. Nicholas Biddle, Commodore Edward Preble, Commodore Alexander Murray, and Commodore John Barry are instructive links in the history of the evolution of the uniform, and show that the commanding officers introduced certain changes. Beginning with the order in 1830 of John Branch, Secretary of the Navy, the uniform was materially changed and further changes were introduced perhaps a dozen times before the present styles were adopted. Secretary Branch made

the full dress coat of dark blue cloth lined with white. It was double breasted, with long lapels and cut with a swell; nine buttons on each lapel, which was to be buttoned back, and an equal number of buttonholes worked in twist as long in width as the lapels would allow. It had a standing collar lined with white and embroidered with gold. Two gold epaulets, faced with white, and white breeches with small naval buttons and gilt knee buttons, white silk stockings and shoes with gilt buckles completed the costume. Under these regulations epaulets were only to be used with cocked hats or caps. Lieutenants wore only one epaulet. Until the year 1839, the marines wore green coats with white or buff facings, but in that year it was changed to blue with red facings. The color has not since been altered and the members of the marine corps still wear coats of blue with red linings. The uniform of the sailors has changed as frequently as that of the officers. Up to 1835 they wore red waistcoats when in their mustering suit, but between that time and 1839 they wore blue cloth jackets and trousers and white shirts, with large blue nankeen collars and fronts trimmed with rows of white tape.

The introduction of new grades into all branches of the navy, in 1866, necessitated a reorganization of the navy uniform, which was done by Secretary Welles. At the present time the special full dress coats of all commissioned officers, except chaplains, is of dark navy blue cloth, double breasted, lined with white silk serge, the waist of the coat to descend to the top of the hip, the skirts to begin about one-quarter of the way from the front edge and descend four-fifths of the distance from the hip bone to the knee. Two buttons are on the waist behind and one near the bottom of each fold. Two rows of large naval buttons are on the breast, nine in each row, the rows being from four to five inches apart, from eye to eye at the top, and two and one-half inches at the bottom. The collar has one strap of heavy gold wire or thread lace around the top and down the front, the width varying according to rank. The frock coat is lined with black silk serge, and has shoulder attachments for epaulets.

The service coat is made to descend to the inseam of the trousers and is single breasted. The collar edges of the coat, side seams, and edges of the hip slits are trimmed with lusterless black mohair braid, one and one-quarter of an inch wide. On each side of the collar is embroidered in high relief, one inch in width, the corps badge and grade devices. The trousers are of dark navy blue cloth and have a strip of gold lace down their outer seams. Instead of the red or white waistcoat of former years, the one now worn is a dark navy blue. Gold lace ornaments are worn on the sleeves to designate the rank of the officers. They vary in width according to rank. The staff officers, except chaplains, wear the lace of their rank, but, in addition, have bands of colored cloth around the sleeve, medical officers using dark maroon velvet; pay officers, white cloth; engineer officers, red cloth; naval constructors, dark violet cloth; professors of mathematics, olive green cloth; civil engineers, light blue velvet.

On epaulets, rear admirals have two stars, with a silver fowl anchor in the center; commodores have one star, with a silver fowl anchor at each end; captains have a silver spread eagle in the center, with a silver fowl anchor at each end; and commanders have a silver oak leaf at each end, with a silver fowl anchor in the center. A gold oak leaf is used in a similar way by lieutenant-commanders, and lieutenants substitute two silver bars at each end for the leaves, while ensigns have to be content with a single fowl anchor.

All commissioned officers, except chaplains, are also provided with a rigid cocked hat, made of silk beaver. The rank is distinguished by various decorations and trimmings. Of course, these hats are only used for state occasions, and the ordinary navy cap is used on shipboard.

SPANISH WOODEN BULLETS.

It is well known that Spanish soldiers in Cuba were poor marksmen, but great surprise has been expressed at the remarkable lack of execution which characterized their fire at Guantanamo and Santiago, and an officer of the United States gunboat "Montgomery" has been able to throw some light on the matter. He visited the "Maria Teresa" after the destruction of Cervera's fleet in search of souvenirs. He found a large number of Mauser cartridges in groups of five ready to go into the magazines of the guns, and, if the entire Spanish army and navy were equipped with that kind of ammunition, both Cervera and Toral were amply justified in surrendering when they did. The cartridges consisted of a metal shell loaded with hair and a sprinkling of powder. The bullet was of neither brass nor lead, but of wood. Some army contractor had imposed on the ordnance bureau of the Spanish navy, but to what extent the wooden Mauser bullets were used will probably never be known.

PENSIONS IN NEW ZEALAND.—In New Zealand a law allows a yearly pension of almost \$200 to every needy and respectable person who has passed the age of 65 years and has lived for 20 years in the colony.