Correspondence.

Information Wanted.

To the Editor of the SCIENTIFIC AMERICAN:

I wrote you several days ago in regard to getting out a special number of the SCIENTIFIC AMERICAN or SCIENTIFIC AMERICAN SUPPLEMENT that will give a full description of the various kinds of guns and other weapons of the army and navy tha thave been devised during the last twenty-five years or so for modern warfare. I see from a line in the SCIENTIFIC AMERICAN that someone else has been suggesting the same idea. I feel more and more confident, as I stated to you in a former communication, that such a number of one of your esteemed papers would be most heartily received just now. I hope that, when you get out this number, among the things which you explain, you will make clear the difference between rapid-fire guns and machine-guns, also the difference between a rapid-fire and a slow-fire gun. You speak in some of your issues of the slow-fire 8-inch gun and then again you mention a rapid-fire 8-inch gun. Some of these rapid-fire 8-inch guns you say can be fired as often as three or four times a minute.

Then I believe that another very interesting feature of the paper, that would also be quite a selling point, would be to give a comparison between the guns of 25, 30, 40 and 50 years ago and the guns of to-day. For instance, the guns on the "Monitor," which fought the battle with the "Merrimac," only 35 years ago, I believe, were 11-inch guns, but those 11-inch guns are nothing like as powerful as the 4-inch guns of to-day. All of these questions the public are very much interested in, and very much is being said about them in many of the daily papers. One daily paper, however, will tell one story, and another, another; but if we can read it in the SCIENTIFIC AMERICAN, we know that we are getting the exact facts. We have never known the SCIENTIFIC AMERICAN to do much guessing.

We would be glad to hear from you in regard to this, either as a statement through the SCIENTIFIC AMERICAN that you are going to bring out such a number, or a line from you through the mails, but sincerely hope that you will not fail to get it out. I believe you will make a mistake if you do not. A. O. TAIT,

Ed. of Signs of The Times.

Oakland, Cal., June 10, 1898.

[The above is one of a large number of letters that have reached us on the subject, and, as we have stated in another column, our forthcoming SUPPLEMENT is brought out in the endeavor to meet these expressed wishes of our readers.—ED.]

A Seminary for Teaching Birds How to Sing.

Buying and importing song birds occupies the time and attention of several scores of people in New York, and as the distributing center of this peculiar trade, the city is often the home of considerable numbers of song birds gathered from all quarters of the globe. On the East side, in Fourth Street, there are several remarkable aviaries where, without doubt, a study of one branch of ornithology can be pursued under conditions more favorable than elsewhere on this continent, and a visit to one of these bird conservatories of music is better than a trip to the fields or woods to listen to the songs of the wild warblers. The owner of the aviary is a German—more than probable from some little village in the Hartz Mountains, where bird-raising is the chief industry,—and he not only feeds and tends his little birds with loving care, but teaches them to whistle and sing in tune to the accompaniment of an old reed organ or flute.

There are several large importing houses of song birds in New York, and in the busy season they employ from twenty to forty travelers who go back and forth from Europe to purchase the pick of the canaries, bullfinches and other European songsters. The consignments come chiefly from Germany and England. Nearly all of the canaries raised in the world for cage purposes come from these two countries, and most of the German exporting houses have distributing branches in New York. The birds are sent over by steamer in large consignments under the charge of an expert care-tender, who does nothing else but feed and doctor the little pets placed under his charge. One experienced man can take charge of five large crates, each one containing two hundred and ten cages of birds, or a little over a thousand in all. Sometimes during the rush season the care-tender has five hurricane deckers to watch, or fourteen hundred cages and birds to look after during the long hours of the days and nights.

That this work is not easy, any one who has had the privilege of looking after a single canary for a week can well understand. Feeding and watering over a thousand birds, and cleaning out their cages every day, makes up a routine of work on shipboard that begins at four o'clock in the morning and does not end until late in the afternoon. When seasickness makes life miserable for the passengers, the canaries are apt to be uncomfortable in their crowded quarters. Sometimes a disease known as "schnappen" breaks out among the canaries at such times, and as this is fearfully contagious, it sweeps through the crowded bird quarters on shipboard and decimates the ranks at a terrible rate. Cases are known where only ten birds have survived out of an importation of eight hundred to a thousand, the disease performing its terrible work in a week's time. This is supposed to be caused as much by the overcrowded and poorly ventilated condition of the birds' quarters as by the rolling of the ship. If you ask Fritz if his birds get seasick, he will answer emphatically, "No;" but he will add softly to himself "schnappen." And in that word is conveyed much of meaning that the lay mind cannot appreciate.

When the imported birds arrive in port, they are hurried immediately to the importing houses, or to the different quiet aviaries in the German quarters, where experienced bird-raisers take them in charge. It is at this latter place that one may make an inspection of the singers which are destined to carry song and delight into so many homes. Most of them are trained birds, and they sing and whistle to perfection, and all that their German attendant has to do is to feed and water them properly. If disease breaks out among them, he is supposed to know just what to do, and in most instances he does prove an expert bird doctor.

In the mating and breeding season, however, young birds appear in the great aviary which must be taught to sing and whistle accurately. Most people imagine that all the perfection of song cage-birds is inherited, and they would be surprised to learn the amount of labor bestowed upon them in order to make their tunes accurate. The young birds that have the proper voices for great artists are trained in the most careful manner. In the Hartz Mountains, where canary training reaches its highest development, the throat and voice of each young canary are tested, and those selected for the highest training are set apart by themselves. They are sent to a school of instruction that is unique in its methods. At the head of this school is probably a canary of the St. Andreasberg type, which strikes the right note for all the youngsters to imitate. The young birds are taken into the room in their cages, with cloth draped over them to shut out the light until the proper time has come for singing. Then the light is admitted and the teacher begins her warbling. The young birds, which have probably never yet attempted to pipe, leave off their feeding and listen to the marvelous outburst of pure song. They become uneasy and enraptured, and in a short time they try to imitate the song; but they make miserable failures for many days. Eventually some of them strike the right note, and at the end of the week the most promising ones are separated from the rest and placed in rooms with the best singers. In this way their voices are gradually cultivated, and new songs are taught them.

There are several such schools for canaries in New York, but they are devoted entirely to the comparatively few canaries raised for the trade in this country. Most of those imported have already been trained to sing accurately, although after their long sea voyage they need a little extra training to bring their voices to perfection. The best trained canaries are the St. Andreasberg canaries, whose notes are considered the finest of any in existence. Originally these notes were obtained by placing a nightingale in the breeding room of the young canaries, and the natural, clear-toned voices quickly blended the song in with their natural notes. In time, by careful breeding and selection, the present type of the St. Andreasberg canary was produced, but the pure, bracing air of the Hartz Mountains is considered necessary for the proper development of one of these superb singers. A true St. Andreasberg singer cannot, it is believed by bird trainers, be reared outside of the Hartz Mountains, and it is claimed that only about ten per cent of those raised in their native place ever pass the critical examination of the judges. They are sold according to the perfection of their song power, the best imported bringing as much as $25 to $50 apiece, and ordinary ones as little as $4 to $5. As a rule, they are very small and insignificant looking birds, and not until they have opened their little throats to sing does one comprehend their mission in life.

The German bullfinches are imported into this country in larger numbers every year, and, as they are trained with the greatest care, they are rapidly becoming as popular as the canary. The young bullfinches are taught their lessons when about two weeks old. They are then taken to a dark room, and at the proper time the trainer admits light and begins to whistle a tune. These German trainers are wonders in their particular line. Although deficient in many of the graces of life, they can whistle songs as correctly as another man can play them on a cornet or piano. One false note would be sufficient to ruin the teacher's reputation. Only one bird at a time can be taught, and each one receives an hour's lesson every day. Then another pupil is brought in, and the German trainer renews his whistling. So he whistles and whistles from morning until night, varying his labors only by teaching a different tune to a different bird.

In Germany the young bullfinches are first taught by the strains of a reed organ. They are placed in a dark room, while the trainer plays on a small organ by the hour. The birds have this drilled into them so thoroughly that when they do pipe, they strike the right note every time. The flute is also used extensively now by trainers, and it is a successful substitute for the whistle. The music formerly taught by the trainers was of the old style German hymns; but to-day nearly all of the bullfinches are taught to pipe the popular songs, operas and waltzes.

Prices for bullfinches vary also according to their accomplishments. Ordinary tamed, but untrained, bullfinches can be purchased in New York from $3 to $5, but those that are taught to pipe sell for considerably more. They are classified according to the number of tunes they have acquired. Thus a bullfinch that has mastered only part of a tune sells from $10 to $25, but one that pipes the whole of a tune without an error easily commands from $25 to $30, and a bird of two tunes is worth from $35 to $50. Extra fine bullfinches that pipe several tunes, and have remarkably sweet tones, bring as much as $75 to $100 in this country.

The song-bird dealers import many other gay singers to make life pleasant in our homes. The English nightingale is imported in fair numbers, and brings from $15 to $25 apiece. There is a great difference in the singing of the nightingale, as in all other birds, and only those that have been carefully reared and trained meet the requirements of the modern trade, notwithstanding their reputation for natural singing. Defects appear in some of the birds which cannot be remedied for several successive generations. The Pekin nightingale is a less desirable singer, but it has a certain popularity as a cage bird. Considerable numbers of them are brought to this country, and sold by the dealers from $5 to $10 apiece. But they are not trained as the canaries and bullfinches.

Other song-birds found in one of the East side aviaries, or importing bird stores, are the German chaffinch, the English skylark, the English starling, siskin, woodlark and European thrush. Prices for these in the retail trade may serve to show the value attached to the different kinds of singers. The best German chaffinches can be purchased from $3 to $10; English skylarks, from $3 to $12; English starlings, from $10 to $40, according to the number of tunes they can pipe; English woodlarks, from $3 to $15; and European thrushes, from $8 to $15.

Native song-birds are almost as much in demand as the imported, and every large bird store deals in most of our prominent singers adapted to cage life. Our Southern mocking bird, for instance, which rivals the English nightingale in the variety and brilliancy of its song, sells all the way from $3 to $50 apiece. Cage bobolinks are worth from $1 to $3; tamed robins, from $1 to $5; the Southern redbird or Virginia nightingale, from $3 to $5; the inimitable brown thrasher or thrush, from $3 to $8; and linnets, from $1 to $5. These native birds are rarely trained. They whistle or warble the wild tunes of the forest, and these possess a certain flavor of spontaneous music that is often more gratifying to the hearers than the most elaborate tune of the cultivated Campanini or St. Andreasberg canary.

G. E. W.

The Typewriter and Hearing.

In a recent number of The Phonographic Magazine, William Whitford points out that it is very essential a stenographer be possessed of exceedingly acute hearing, coupled with a goodly supply of what is vulgarly termed "gumption." This is very true; and as the result of a lack of these, and sometimes owing to the artificial mechanicality of the typist, so to speak, ludicrous and unpardonable mistakes often appear in a typewritten document, such as "changing stroke" for Cheyne-Stokes, "ammonia" for pneumonia, "ingestion" for direction, etc.; but it is also requisite that the person dictating should enunciate clearly, and call attention to any rare, technical and unusual word; further, the stenographer should not be permitted, as is too frequently the case, to sit with his or her back to the person dictating.

But it may not be known that the manipulation of the typewriting machine, with its continual noisy and monotonous tap-tapping, tends to further impair an already defective hearing. Most operators make more noise than is necessary, and by pounding fail to secure that clearness of lettering that is essential to good work. To individuals suffering in any degree from chronic middle-ear catarrh—and those who wholly escape are few indeed,—the use and noise of the typewriter is very deleterious, tending to increase the measure of deafness, which, however, may be temporarily mitigated by the use of less noisy machines or by greater care in operating. Eventually, however, the effect of the new machine equals that of the old, and even but two or three hours' work enforces the penalty and increases and accentuates the mischief already done. The effect is equally as certain, though more subtle, with that induced in boiler makers and other artificers who work where there is much hammering.

What is now demanded is a silent typewriting machine, and an inventor who can achieve this will earn the gratitude of a progressive people.