

Military

Photography.

The great importance of the subject of photography to the army has induced the great armed nations to prepare for war in time of peace, not only as regards the fighting qualities of their troops but also in the development of the technical branches, of which photography is one of the most important.

A brief account of the manner in which the world's great armies are organized with a view to utilize this important aid to military science will indicate what has been done in this domain, as well as what should be done to insure its more efficient service in future campaigns. Nearly every important army has taken up the subject, and most of them have special troops assigned to this work.

England had a photographic detachment as early as the Abyssinian war, which was composed of seven photographers under a civil chief photographer. It was assigned to the staff of the Quartermaster General, and its duties comprised copying maps and sketches and photographing interesting points. In 1869 there was a general photographic establishment at Woolwich, under which was placed the survey bureau at Southampton and the Engineer Institute at Chatham, as well as detachments in the colonies. Since 1886 England has possessed a field photography and lithography detachment, which prepares war maps by zincography. At the Royal Naval College at Greenwich photography is part of the course for the naval officers, and at the military schools the cadets are taught the principal photographic processes, while every warship has its complete photographic outfit.

France introduced the method of photographing from balloons in 1859, and organized the first detachment for photographing carrier pigeon despatches in 1870-71. Each balloon section in the army at present has two observers (officers), whose duty is to take photographs; and at the Engineer School at Grenoble, photography is part of the course. The survey of the State is under the War Department, and photogrammetry is part of the work of the officers on this duty.

Russia, in 1884, placed photography under the balloon sections of the army, but in 1891 the subject was transferred to the electrotechnical subdivision of the Engineer Corps. The latter has a class of twenty officers annually under instruction, photography being one of the subjects of the course.

Austro-Hungary has in its army a field photography section, and many of the officers on duty in it have acquired an international reputation. Every warship has its photographic outfit, with the use of which every officer is made familiar; the Cadet school at Heimbürg teaches photogrammetry; and the Military Geographical Institute prepares the government survey maps.

Italy, in 1896, added a photographic section to one of its engineer regiments. It is composed of a captain, eight subalterns and a number of men, and its duties comprise telephotography for identifying the border lines and for work in the field, microphotography for carrier pigeon despatches and the photographing of arms, ammunition and explosion experiments.

Germany has no specially organized detachment for photography, but this subject is part of the work of the balloon section of the general staff at the proving ground at Jüterbog. At the last-mentioned place interesting investigations have recently been conducted on the effect of infantry and artillery fire on balloons and on the oscillations of the axes of elongated projectiles during flight. Photogrammetry is applied by the Bavarian general staff to land surveys, because the country of northern Germany is too flat to admit of the application of this method of land surveying. It is remarkable that in spite of the failure of her improvised photography section in 1870-71 Germany should not prepare herself better, in time of peace, for this important work.

Such is the work done in the armies, and such the organization that has resulted from their various experiences.

Let us consider briefly what military experts are suggesting as the proper course to pursue for making this service more useful in war.

In the first place, each army corps will probably have a balloon section, and to this a photographic detachment is to be assigned, consisting of six officers; two for balloon photography, two for photogrammetry and telephotography, and two for preparing map and plans for carrier

pigeon despatches.

Every division is to have two officers permanently assigned for photographic work. The reconnaissances will be conducted by general staff officers, but they will be accompanied by the photography officers.

Each infantry regiment is to have two officers trained in photographic work, who remain with the troops ordinarily, but are to be utilized when a reconnaissance is in progress; one taking the photographs in the field and sending them in by cyclists, mounted orderlies or war dogs, while the other remains in camp to superintend the development of the plates.

Each cavalry regiment is to have at least one officer well versed in photography for every squadron.

This is the organization now being considered by the European armies, and it is so simple and will evidently be so practicable, that it is worthy of our careful study.

The apparatus suitable for field use has also received attention, and the conditions to be filled are such that the suggestions made should be useful to camera makers as well as to army officers.

The camera must be compact, strong and light, and the lens must be achromatic and rapid. Films (since their weight is only one tenth that of plates), in spite of their disadvantages, will generally be used but they must be put up separately, so that an important photograph can be sent back at once to headquarters. Rolls are therefore excluded. The film holders should be of light metal (preferably magnalium), with celluloid slides; wood takes up too much room. For night photography each camera must have a magnesium lamp, which could do excellent service, for example, in taking pictures of the places where, in the attack on a fortified place, the wire entanglement had been cut for the passage of the troops in the coming assault.

The cameras for the smallest subdivisions can be carried on bicycles; those for divisions should be capable of more extended work, especially telephotography, these for army corps could be still larger, as they would probably be carried in the baggage trains. The corps cameras should also include an apparatus for reading carrier pigeon despatches.

For development the necessary chemicals should be put up in papier mache or celluloid boxes, preferably of the cartridge form. Bromium-silver paper has the advantage of being independent of daylight or the electric light, a petroleum lamp sufficing, hence it is best for military use.

A dark room is not generally available in the field, consequently the German Army in 1870-71, carried along a specially constructed wagon. This increases the train, and is not always at hand. To overcome this difficulty a so-called 'dark chamber tent' has been constructed, consisting of a light tight leather bag, like the upper half of a coat, with a hood to go over the head as far down as the nose, and holes for the hands, all in one piece, and supported by sticks to form a rude tent, the base of which is only about 12x16 inches, so that it can be set on a small table.

For the division and army corps cameras a motor wagon is recommended, in which the work can go on while it is in motion.

The most valuable aid to reconnaissance will undoubtedly receive increased attention in the near future, and a clear understanding of what has been accomplished, as well as the conditions to be fulfilled for field work, will be useful as a guide to concerned.

Versatile Filipinos.

For an example of adaptability, America may go to her new possessions. Mr. Phelps Whitmarsh, writing in the Outlook of the Philippine natives, asserts that for adaptability he has never found their equal. While a Filipino may never attain to the perfection of which a white man is capable, he is good for everything.

In a few days he picks up a trade or business in such a way that one might easily believe that he had been at it for years. In a week he becomes a cook or barber, a coachman or painter, a tailor or mason, a musician or a parish sexton.

If your coachman be away and you wish to drive, your cook will harness up and take you where you desire to go. If you order your coachman to prepare a dinner, he will do it like the cook himself, and he is equally ready if required to sew on a button or mend your clothing, while his facility in painting a room or mending a wall will prove him a good Jack

of all trades, although a master of none.

If you ask your servant to do something that you consider difficult, and he replies, 'I will take care of it,' you may be reasonably sure that he will do it.

'I know a native,' says Mr. [Whitmarsh], 'whom I had never heard play a musical instrument. Yet, when one of his friends was blessed with a young son and took the child to be baptised, this man not only took the role of sacristan, but also played in the band which accompanied the child home.'

'The owner of the hotel in which this native worked told me that he was equally good as a coachman, cook, tailor, barber and painter, and that such versatility among the natives was a common thing.'

LA GRIPPE'S VICTIMS.

ARE LEFT WEAK, SUFFERING AND DESPONDENT.

A Nova Scotian Who Was Attacked Almost Gave up Hope of Recovery—His Experience of Value to Others.

From the Enterprise, Bridgewater, N. S.

Mr. C. E. Johnson is about 28 years old, a gold miner by occupation, is well known about the mining camps in these parts and is thoroughly posted in his business. Not long since Mr. Johnson chanced to be in Porter's drug store, in Bridgewater, when a case of Dr. Williams' Pink Pills was being opened, and he remarked to the clerk; 'I saw the time when a dozen boxes of those pills were of more value to me than the best gold mine in the country.' A reporter of the Enterprise happened to hear Mr. Johnson's rather startling remark and asked him why he spoke so highly of the pills. Mr. Johnson's statement was as follows: 'About four years ago I was attacked with la grippe which kept me from work about three weeks. I did not have it very hard apparently, but it left me weak all the same. Anyhow, after losing three weeks I concluded to go to work again. The mine I was working in was making a good deal of water and I got wet the first day. That night the old trouble came back, with the addition of a severe cold. I managed to get rid of the cold, but the whole force of the disease settled in my stomach, kidneys and joints, and boils broke out on my body and limbs. My back was so weak I could scarcely stand alone, while food in every form distressed me, and I became so nervous that any unusual noise would overcome me. I tried several sorts of medicines, but none seemed to do any good. I next went to a doctor. His medicine helped me at first, but after a short time lost its effect. He then changed the medicine, but with no better result. About this time a clergyman who called at the house advised me to try Dr. Williams' Pink Pills. I got a box and used them, but they did not materially benefit me. I had now been some weeks idle and was feeling desperate. A friend strongly advised me to go to a hospital for treatment, and I had just about decided to do so when an acquaintance learning I had taken but one box of the pills suggested that I should try three boxes more before giving them up. The matter of money decided me on trying the pills again. I got three boxes and when used I was quite a bit improved. Could eat light nutritious food, slept better, and felt noticeably stronger. But I was still an unwell man. As the pills were doing a good work, however, I sent for eight more boxes. I continued using them till all were gone, when I felt that I was restored to health. All my stomach trouble had disappeared. I was fully as fleshy as before the first attack of la grippe, my nerves were solid as ever, and I knew that work would give strength to my muscles. So, after about six months I went to work again and have not had a sick day since. One dozen boxes of Dr. Williams' Pink Pills saved my life and gave me better health since than I had before, and that is why I said they were worth more to me than any gold mine, for all that a man has he will give for his life.'

Dr. Williams' Pink Pills cure by going to the root of the disease. They renew and build up the blood, and strengthen the nerves, thus driving disease from the system. If your dealer does not keep them, they will be sent post paid at 50 cents a box, or six boxes for \$2.50, by addressing the Dr. Williams' Medicine Co., Brockville, Ont.

Family Suite.

'Where's your daughter Mary living now, Mrs. Herlihy?' inquired one of the neighbors, who had dropped in after an absence of some months.

'Her husband's got a fine job on the Times, reporting accidents,' said Mrs. Herlihy, proudly, 'and the two of them and little Mike is living in a suit up-town.'

'What's a suit?' inquired the neighbor, curiosity having got the better of a desire to appear well-informed on all points.

'A suit,' said Mrs. Herlihy, slowly, 'is one o' them places where the parlor is the bedroom, and the bedroom is the kitchen, and the closets is down in the cellar, and the beds is piannys,—or organs, and,—well, it's one o' them places where everything is something else,' concluded Mrs. Herlihy.

The Smallest Wild Cattle Known.

Dr. R. Lydkker says that Celebes has the distinction of being the home of the smallest representative of the wild cattle, not only of this but of any period in the world's history. It is called the 'anón,'

and is not much, if any, larger than a well-grown Southdown sheep. Its height at the shoulder is three feet and three inches. It has many of the characteristics of the large Indian buffalo, and there are reasons for thinking that it may be a primitive type of buffalo.

TESTIMONY OF A WATCH.

It Seemed to Acquit a Man of a Murder But in Reality Did Not.

'Circumstantial evidence,' said the detective, 'is one of the things that are just as likely to work one way as another. I recall one case in which I had a hand where it backed up some alibi testimony that saved a man.'

'About twenty years ago an engineer, running a donkey engine on a wharf at Chicago, was found drowned with a wound in his head. The body was seen early in the morning floating under the wharf, and when his clothing was searched, a plain silver watch was found in his pocket, which had stopped at 8 o'clock. That fixed the time of the drowning, or at least of the body's falling in the water, and a further examination by physicians showed that the man was still living when he had gone overboard, as there was water in his lungs. It might have been an accident, as the engineer was in the habit of getting drunk at night and going to sleep near his engine, but it was known that he had had a difficulty with a bad man of the neighborhood that afternoon, and the bad man, known as Smithy, had announced that he would do him at the first opportunity. This had happened about 3 o'clock, and about 6 Smithy had been seen by a dozen or more persons in various saloons looking for the engineer and threatening to kill him.'

'Of course, under the circumstances, the natural and logical thing for the authorities to do was to arrest Smithy for the murder of the engineer, and this we did, but not until late in the afternoon, as he was discovered five miles out of town at a small road house, which was further testimony against him. He denied all knowledge of the death of the engineer, and took us to the house of a man and woman, friends of his, who swore that he had taken supper with them at 7 o'clock and stayed until 9 playing cards. We had heard alibi cathes before, and counting the testimony of the watch in the dead man's pocket and the threats of Smithy before his death as good enough we shut Smithy up without bail to await the action of the Grand Jury. The Coroner's jury backed us up in our decision.'

'Smithy hadn't any money or influence, so there wasn't much fooling with him, and his case came up for settlement in short order. We did the best we knew how to convict him, but the alibi witnesses had never been in court before and were supposedly honest people. The physician testified that the wound in the head might have been received in falling against a pier timber or a log in the water and the testimony of the watch corroborated that of the accused man's friends, and the combination was too much for the jury, which brought in a verdict of not guilty. That let Smithy out, of course.'

'About two weeks after the acquittal a jeweler from out Evanston way was in my office identifying some stolen jewelry, when he saw the engineer's watch, which was still held. He showed me his marks in the case where he had cleaned it about eighteen months before, and asked me what it was doing there. I told him its story and he was greatly surprised, and said that he had just got home from Germany and knew nothing of what had happened to his old customer. He went on to say that the engineer a year before had been running an engine in Evanston, and had become known to him through several purchases he had made in his place. I was interested at once and gave him the details of the story, with some facts relating to the testimony, and he said he would look over his books and might be able to tell me something.'

'The next day he came in again with a journal that he kept of his business and showed me that the engineer had called at his place the evening before his death was discovered. He recalled distinctly that the man was under the influence of liquor, but hardly enough to be noticed, and that he had given him his watch to see what was the matter with it, as it had stopped about an hour before. It was then a little after nine o'clock and the watch had stopped at eight. He told him it needed cleaning and the engineer had said he was not in funds just then, but would bring it back again on the following day, as he had to come out that way on some business. He said that from the place to where the engineer worked could not be reached short of an hour and a half, and that however he had come to his death it could not possibly have happened before half-past 10 o'clock.'

'That was the jeweller's story, and he was prepared to swear to it, but it was too

late then. The law says a man cannot be twice placed in jeopardy of his life, so we couldn't try Smithy over again, though I have always been convinced that if the jeweller's testimony could have been heard we would have got him dead to rights sure, because it would have knocked the alibi higher than a kite. Smithy's friends having testified that he left there house at 9 o'clock and there being no proof that they were lying. In fact, I am pretty sure that they told the truth, and that Smithy really was with them up to that hour.'

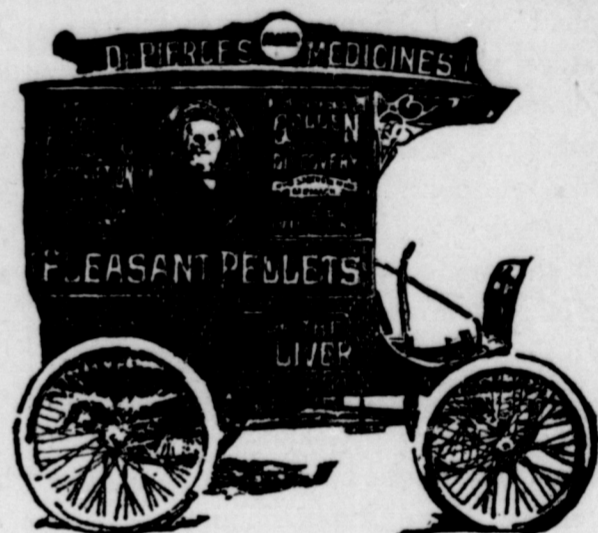
'It was the watch that did the business for us, and now whenever any stopped watches are offered as evidence in any case in which I am concerned I pass them as incompetent. Whether Smithy killed the engineer or not I wouldn't want to say, but with that jeweller's testimony we would have got him all the same, which is what we are here for.'

'Here's a girl,' remarked the Query Editor, 'who writes to know "what is the popular spoonholder this season?"'

'Evidently,' replied the Snake Editor, 'she never had any beaux.'

'Why?'

'Because if she had she'd know that the most popular one is the parlor sofa.'



PROGRESS.

Some time ago there was a notable automobile procession in the city of Buffalo, N. Y. It was notable for its size, and also for the fact that it was entirely composed of automobile wagons (like that in the cut above), built to distribute the advertising literature of the World's Dispensary Medical Association, proprietors and manufacturers of Dr. Pierce's medicines. In many a town and village Dr. Pierce's automobile has been the pioneer horseless vehicle. These wagons, sent to every important section of the country, are doing more than merely advertise Dr. Pierce's Remedies—they are pioneers of progress, heralds of the automobile age.

And this is in keeping with the record made by Dr. Pierce and his famous preparations, which have always kept in the front on their merits. Dr. Pierce's Golden Medical Discovery is still the leading medicine for disorders and diseases of the stomach and digestive and nutritive systems, for the purifying of the blood and healing of weak lungs.

Women place Dr. Pierce's Favorite Prescription in the front of all put-up medicines specially designed for women's use. The wide benefits this medicine has brought to women have been well summed up in the words "It makes weak women strong and sick women well."

The reputation of Dr. Pierce's Pleasant Pellets as a safe and effective laxative for family use is international.

It may be asserted without fear of contradiction that no other firm or company engaged in the vending of put-up medicines can rank with the World's Dispensary Medical Association, either in the opinion of the medical profession or of the intelligent public. The Invalids' Hotel and Surgical Institute, which is connected with the "World's Dispensary," is alone sufficient to prove this supremacy. Here is a great modern hospital, always filled with patients, where every day successful operations are performed on men and women whose diseases demand the aid of surgery. No hospital in Buffalo is better equipped, with respect to its modern appliances, or the surgical ability of its staff. Dr. R. V. Pierce, the chief consulting physician of this great institution, has associated with himself nearly a score of physicians, each man being a picked man, chosen for his ability in the treatment and cure of some special form of disease.

The offer that Dr. Pierce makes to men and women suffering with chronic diseases of a free consultation by letter, is really without a parallel. It places without cost or charge the entire resources of a great medical institute at the service of the sick. Such an offer is not for one moment to be confounded with those offers of "free medical advice" which are made by people who are not physicians, cannot and do not practice medicine, and are only saved from prosecution by artfully wording their advertisements so that they give the impression that they are physicians without making the claim to be licensed.

Those who write to Dr. Pierce, chief consulting physician to the Invalids' Hotel and Surgical Institute, Buffalo, N. Y., may do so with the assurance that they will receive not only the advice of a competent physician, but the advice of a physician whose wide experience in the treatment and cure of disease, and whose sympathy with human suffering leads him to take a deep, personal interest in all those who seek his help and that of his associate staff of specialists.

Dr. Pierce's Medical Adviser (in paper covers), 1008 pages, is sent free on receipt of 31 one-cent stamps, or 50 stamps for the cloth-bound volume, to pay expense of customs and mailing only. Address Dr. R. V. Pierce, Buffalo, N. Y.