

PERSONALS.

Lieut.-Col. Osborne Smith, who has been laid up in Winnipeg from an accident received when his battalion returned from the front, is able to be around again.

Colonel Powell, Adjutant-General, is yet in California. Several letters from him have been received by his friends here, and he reports his health much improved by the change of climate and rest.

Mr. Fred Middleton, son of the Major-General commanding, who has just finished his course at Sandhurst, and is now awaiting his commission, is in Ottawa on a visit to Sir Frederick and Lady Middleton.

Bt. Lieut.-Col. Vance Graveley has just completed six consecutive years' service as Mayor of Cobourg, and carries with him from that office the heartiest thanks and good wishes of the council and his fellow townsmen.

Lieut. Col. Wyndham, commanding the York Rangers, who was west as junior major of the York and Simcoe Battalion, is in Ottawa, urging on the Government the adoption of a scheme for a military colony in the North-west, a scheme of which we gave an outline last summer.

Advices from Calgary inform us that just as General Strange, who, it will be remembered, broke his leg last fall, was expecting to be up and about, his leg was again broken. Dr. Henderson had gone down to the ranche from Calgary and removed the plaster of Paris bandage in which the limb was encased. During the evening the General asked one of his little daughters to move the injured leg. This she attempted to do, when, unfortunately, she let it down too suddenly, and the bone snapped again in the old place. The doctor was in the room at the time, and immediately reset it. We trust the injury will not prove serious.

Lieut. C. F. Winter, who has just been given a commission in the Guards, has had a great deal of military experience for so young a man. Belonging to Prescott, Ont., he joined the British army when a youth, and soon got his sergeant's stripes. With his regiment he was through the Egyptian campaign of 1882, and in the battle of Tel-el-Kebir, winning the English medal, with clasp, and the Khedive's star. He went to the front last year as color-sergeant of the Sharpshooters, and was shot through the face at Cut Knife. The offer of a commission to him was made in consequence of his popularity and efficiency, and the Guards are fortunate in securing so energetic a man as an officer.

Lieut. H. H. Gray, G. G. F. G., whose promotion from a second lieutenancy appears in the last *Gazette*, is best known as an old and enthusiastic rifle shot. He has belonged to the Guards and been a member of almost all their strong teams since their organization, and represented them at Wimbledon in 1879, also winning a place on the team the two following years. In addition to the M. S. with which the *Gazette* credits him, he took a first class certificate at the Fredericton School of Infantry in 1884. He was, it will be remembered, in command of the detachment of Ottawa Sharpshooters which was at the Cut Knife Hill fight. His promotion is in the regular course of seniority.

Lt.-Col. Smith's transfer from a majority in the 47th to the command of the 14th is rather an unusual proceeding, but we understand that circumstances rendered the calling in of an outsider desirable, and the unanimous choice of the officers fell upon their old and deservedly popular fellow townsman. Col. Smith is deputy Sergeant-at-arms of the House of Commons here, has first-class Military School and School of Gunnery certificates, had held the rank of major since 1875, and went through the North-west expedition last year as senior major of the Midlanders, taking command when Col. Williams died. We congratulate Col. Smith heartily upon his well merited promotion, and the Princess of Wales' Own Rifles upon securing a commander who is certain to maintain the regiment in an efficient state.

ROYAL SCOTS.—The *Witness* states that the members of "F" Company recently marched to Capt. Ibbotson's house, on Bleury street, headed by the pipers and drummers, for the distribution of prizes won at the annual shooting match. The occasion was taken advantage of by the men to present to their captain an address, accompanied by "a photograph of the company, a splendidly executed dirk and a beautiful dress sporran." The captain replied appropriately, and called upon Captain Hood (A Company) to distribute the prizes, which, after a few remarks, he did. The company then supped, and after singing "Auld Lang Syne," dispersed.

A SNIDER CARTRIDGE.—Concluded.

BY CAPTAIN F. C. WURTELE, 8TH ROYAL RIFLES.

The brass for the case-body, which is .005 inch in thickness, is received at the factory in rolls, and is cut into lengths of 21 inches. To one side of it a very thin white tissue paper is cemented, after which the length is cut into two, when the other side is covered with brown paper, extending half an inch beyond the edge. When fully dry the strips are cut into lengths of $2\frac{5}{8}$ inch, which is sufficient for a shell.

To form the case-body the fly or lap of brown paper beyond the brass is brushed with cement. The other end is placed in a slit in the mandrel of the "roller machine" and by one turn of the handle the cylinder is formed, the cement on the fly holding it in shape. This cylinder is then placed on the mandrel of the "crimper" which is $\frac{3}{8}$ inch shorter than the cylinder, thus leaving room for the "pellet" which is now inserted. A plunger having a concave end is now struck smartly against the end of the cylinder, thereby crimping or folding it over the end of the pellet. After this the base-cups, which, it will be remembered, have been pressed together and punched, are placed on the crimped end, and the cap-chamber, which has been passed through the iron base-disc, is inserted into the hole in the centre of the pellet, and by another blow the component parts of the shell are brought together. For completion the shell is taken to a compressor in which the whole of the parts are firmly pressed together, after which they pass through the "rivetting and piercing" machine, in which the end of the cap-chamber is spread or bulged, thereby rivetting the whole together at the same time that a needle pierces the "fire hole" in the cap-chamber and the shell is then considered finished. Each shell is then submitted to careful inspection and gauging, and all that pass are sent to the laboratory to be filed.

The detonating composition with which the caps are filled is mixed in the detached building in the Cove Field before mentioned. The fulminate of mercury is obtained from England packed in water, and is dried and mixed in certain proportions with sulphide of antimony and chlorate of potash, and powdered. Owing to the danger which attends this operation, only a skilful operative is employed, who exercises the greatest care in all his manipulations, and only prepares a small quantity at a time.

Preparatory to filling, the empty caps are placed mouths upward in regular rows of holes in an oblong brass plate, which holds 616 caps. The plate thus charged is placed on a machine—wholly of brass—underneath a tray having a like number of holes at the same distances apart, but at first the caps do not come under these holes, which are closed by the solid part of the cap plate. Over the tray the fulminate is softly poured, and is brushed with a card covered with chamois skin, so that each hole, which holds a charge of two-tenths of a grain, is completely filled. The residue is then carefully swept off with a camel's hair brush into an india-rubber tray, and replaced in safety. The attendant, having satisfied himself that every hole contains its proper quantity, gently moves the cap plate by means of a long rod until the caps are brought directly under the holes in the tray when the charges they contain drop into the caps, and the machine is struck a soft quiet blow to ensure the deposit in the caps of all in the tray. From this machine the plate is taken to and placed on the table of the pressing machine, in which it passes under an arch which forms the fulcrum of a set of levers having pins depending from their ends, one pin to each row of caps. As the rows pass along the pins descend, the machine being driven by a belt, and compress the fulminate in each cap with a pressure of 200 pounds. Now and then a cap explodes, but no damage is done. After having been pressed the caps still in the plate are taken to the varnishing machine in which is a corresponding plate full of holes containing pins, underneath which is a tray containing liquid shellac. Before the caps are placed in position the pins are dipped into the shellac, and then raised, a small drop of shellac adhering to the point of each pin. The caps are then placed, the pins are depressed again and each leaves its quantum of varnish in the fulminate, which, when dry, permits the caps to be emptied into boxes, from which they are taken and placed in holes in small circular brass trays, when the anvils are inserted, and they are then in readiness to be taken to the "capping" machine.

After the bullets have been received at the laboratory from the factory, they are placed in frames, points down, in cells which extend as high as the top cannelure, and dipped in molten beeswax just to the edge, care being taken not to allow any wax to flow over the clay plug. After cooling, each bullet is passed into a gauge heated by steam, in which the superfluous wax is got rid of and only the proper quantity and thickness remains, and the bullet is then carefully wiped and packed for further use.