

BEST Clothing Value

For Men and Boys. TRY US AND SEE. Union Clothing Co., 26 and 28 Charlotte Street, Old Y. M. C. A. Building, ALEX. CORBET, Manager.

TELEPHONING FROM A HORSE.

Latest Invention for the Use of an Army in the Field — The Success of the U. S. Army Experiments.

The utility of rapidly moving horse-fish with telegraph or telephone wire and of rapidly moving horses' heads as a conductor has been demonstrated by First Lieutenant A. C. Knowles, 12th Infantry, United States Army, lately detailed to study the different phases of army signal work in the field. His experiments have proved the practicability of continual telegraphic or telephonic communication between two mounted operators starting out in opposite directions and continuing to ride until at least five miles apart. By the same device acousts sent out in all directions from a military camp on, while on the move, continually receive instructions from headquarters and report back everything of interest which they perceive.

Attached to each rider's body is a "breast reel," compactly wound with two and one-half miles of insulated wire. Hanging also on his body is a "buzzer"—a combined telegraph and telephone apparatus, through which a message may be sent either in spoken words or by means of the telegraphic code transmitted by a buzzing rather than a clicking sound. The receiver and transmitter are held against the ear and the mouth, if telephone communication is being effected, or in the hand, if the buzzing key is being used for telegraphy.

GROUNDING THE CIRCUIT. As the rider moves the wire connected with his "buzzer" is automatically reeled out over his shoulder. The circuit is "grounded" through the horse. To make a telegraph or telephone circuit complete there must, of course, be a ground connection at each end. This is effected by placing against the horse's body a standard piece of wire, properly connected to the buzzer, and as the horse always has one or more feet on the ground while moving, any galvanic circuit is completed, which would seldom be resorted to—the ground connection is completed through one or more hoofs.

"Of the several horses used in these experiments," said Lieutenant Knowles, "only a few showed any signs of discomfort, and those affected by the current were soon quieted. They appeared to exhibit surprise, rather than pain at something unusual, to which they quickly became accustomed. These tests were made over all kinds of ground—very wet, muddy, moist, perfectly dry and dusty roads and fields—with results of practical value. With two mounted operators similarly equipped and separated by five miles of wire conversation was carried on without difficulty, the horses standing in grass. The "buzzer" was loud enough to be heard several feet from the instrument. The commanding officer of the body to which such a mounted operator is attached may ride alongside his moving telegraph office and receive the message word by word as the operator receives it, or he may dictate his own message to the base in similar manner. Should he wish to communicate by telephone the operator handles the combined receiver and transmitter and without dismounting he may talk with the base."

FROM MOVING FIELD WAGGONS. A similar system of telegraphing and telephoning from moving field wagons of the signal corps is also being demonstrated by Lieutenant Knowles. The operator in the moving wagon may send a message or receive one from an operator on the ground, the communication being maintained through six miles of wire coiled upon reels mounted in the wagon. As the wagon draws away from the operator on the ground the wire will uncoil, but this will not interfere with the transmission of the message to and from the wagon, even if the miles move at a gallop.

Portable equipment for field wireless telegraphy is also being experimented with by the signal corps, under the direction of General James Allen, chief signal officer, U. S. A. Jointed sixty-foot masts which, like fishing rods, may be broken into sections, and readily carried in the field, are among the novel items of this equipment. Recent experiments show that one of these can be erected, the guy ropes made taut and the wireless message be started on its way through the air in about three minutes after the signal has been received. The equipment all of the apparatus necessary for such a field station—transmitter, receiver, condenser, keys, electrolytic cell, head telephone, etc.—is carried in two pack chests and one trunk, the weight only 20 pounds. Only three miles are required to carry the equipment, one bearing the two chests containing the storage batteries, another the trunk or "operating chest," which when opened is a compact telegraph office—and the third animal the portable mast, guys and "antennae." Whenever storage batteries give out the pack mule to which they are assigned leads them to the base of operation, where they are recharged by small gasoline driven dynamo. These field outfits have only been introduced in the United States within the last

few months, yet messages are regularly transmitted and received by them over distances of twenty-five to thirty miles. THE FIELD EQUIPMENT. Especially for tests during this summer's encampments General Allen has just had completed fifteen sets of field wireless equipments so compact that one mule instead of three can carry all of the apparatus of each station. Outfits for wireless field stations are also carried in the "wireless instrument wagons" of the signal corps. Kites, to replace masts where wireless messages are to be transmitted over long distances, are now to be regularly adopted as a part of the signal corps field equipment. They are made in standard sizes and are blown down either singly or in tandem. They are of the fine Japanese silk, mounted on light bamboo frames, and are collapsible, so that they may be folded up within a small space. These kites are held captive by the same wires as that used on the buzzers above described. It is paid out from a specially constructed reel, highly insulated from the ground, by porcelain legs. The ground connection is obtained by spreading out upon the grass a copper wire netting of fine mesh. "With this simple outfit, which can be installed in a few minutes, whole messages have been received at Fort Leavenworth, Kan., from St. Louis, Chicago, and from alphas in the Gulf of Mexico," said Major George O. Suler, recently chief signal officer, "since the distances to which messages may be transmitted depend primarily upon the power of the transmitting station, this equipment is not adapted for sending to such great distances, but messages were easily exchanged with Kansas City, a distance of over 1,000 miles. The equipment necessary for only receiving messages can be made extremely simple, so much so that it may weigh only a few ounces and may be carried by a single soldier without inconvenience.

"No other form of receiving 'antennae' need be used than a vigorous growing tree, preferably well covered with leaves. It is only necessary to drive an ordinary nail into the trunk at some distance from the ground and connect the nail through a small post consisting of a transmitter and receiver pin driven into moist earth near the tree; then passing messages may be received read by means of a head telephone suitably connected to the receiver."

THE PORTABLE TELEPHONE. For stringing its field wire telegraph and telephone lines the signal corps now uses light lance poles carried in the field in "signal wagons." After experimenting for a number of years to develop a portable telephone, the signal corps has perfected a compact device consisting of a transmitter and receiver on one hand support, so that one hand only is required for conversation. The whole outfit, weighing twenty-one pounds, fits into a compact carrying case with a strap sling. Switchboards for field "central" stations are now made so compact that one can be mounted upon a tripod at army division or brigade headquarters in the field.

All of these electrical inventions now constituting the nervous system of the U. S. Army have almost entirely superseded such visual means of signaling as the wigwag flag, the heliograph and acetylene lamp. In the Japanese army there is now practically no visual signaling at all. However, the experience in the United States Army has been that often occasions arise where no other means of communication are possible. For instance, for many months all of the military and administrative business of the island of Elbol, in the Philippines, was transacted through signal corps heliographs and flash lanterns, communicating with Araya, on the adjacent island of Cebu, there being no cable or wireless connection between these islands.

SIGNAL BOMBS AND ROCKETS. Signal bombs and rockets are an essential part of the equipment of the signal corps. The bombs are pasteboard shells, charged with stars, which burn brilliantly when ignited. Three kinds of rockets are now in use. One is arranged so that it can be loaded with different colors at any time and four lights in sequence may be used. By using the "Meyer code," any letter or number may be signalled with one rocket, and thus messages may be sent by exploding any number desired. Another is the "light and sound rocket," which discharges with a loud report and displays a white light, is for attracting attention or indicating a prescribed signal. The third or "smoke rocket," used in the daytime, emits a deep yellow smoke upon exploding. These explosive signals are for signaling across impassable places or by parties of troops that are in thick timber or deep declivities. Experiments show that they can be read at a distance of six miles in clear weather.

CLASSIFIED ADS.

ONE CENT PER WORD per issue is all it costs to insert advertisements like those appearing below in the lively columns of THE STAR and ST. JOHN. This ensures them being read in 6,500 St. John homes every evening, and by nearly 8,000 people during the day. SUN and STAR Classified ads. are veritable little busybodies. 6 Insertions for the price of 4

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WANTED.—A competent cook, Apply to W. M. JARVIS, 118 Princess St. in evening, or at office, 111 Prince William Street during office hours. 24-2

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AUCTIONS.

Walter S. Potts, Auctioneer. Sales of all kinds attended. Furniture sales at Residence a Specialty. Office—Market Street. Phone 291.

THE TOURNAMENT.

Announcement Made Last Evening of the Route of the Parade. There was a largely attended meeting of the fire department and salvage corps last evening in the rooms of the hook and ladder company on King street east. The executive committee reported progress regarding the arrangements for the coming tournament. The report was adopted.

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