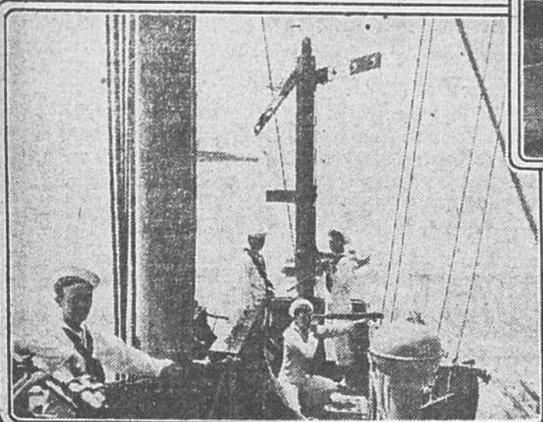


WITH PEN and CAMERA

Up-to-Date Methods of Military and Naval Signaling



Signaling Bridge of Battleship Showing Use of Semaphore, Flag Rack, Observer with Glass, Etc.

Varied and Ingenious Means of Communication by Armed Forces On Land and Sea - The Wireless Has Not Displaced Flags and Torches - Novel Use of Searchlights.

In any crisis which confronts military and naval forces the efficiency of armed bodies—be they on land or sea and be their operations defensive or offensive—is largely dependent upon their means of communication. The old adage that a chain is no stronger than its weakest link is particularly applicable in the case of armies and navies and certainly there is no more important link in such a chain than that which has to do with "intelligence service" upon which a fighting organization must rely not merely for orders but for the information upon which, mayhap, is dependent its very existence.

Since the radio came. When the wonders of wireless telegraphy were first disclosed a good many people both in and out of the army and navy jumped to the conclusion that this new method of instantaneous communication must, perforce, displace almost all other forms of signaling. As it turned out, however, nothing of the kind has taken place. Radio work plays a part, and a very important part in the interchanges of our military and naval establishments, but it hasn't by any means displaced the time-tried tools of the signaller—namely, flags, torches and the waving arms of the semaphore still play their part in bearing the tidings of joy and sorrow and will probably con-

transportation of troops but in the United States both military and naval authorities have to a great extent concentrated attention upon aeroplanes and flying boats, none of which are of a capacity sufficient to carry more than two or three passengers and the forte of which must necessarily lie in scouting. Not that scouting by this new medium is not important. It is, indeed it constitutes just about the most important service an air craft could render to modern warfare, for it affords a means never heretofore available for ascertaining the exact position of an enemy, the distribution of hostile forces, etc., to say nothing of the opportunity to drop bombs.

To enable a military or naval aviator to communicate with headquarters while on the wing several innovations in signaling apparatus have been devised. Possibly the most notable is the remarkably compact little wireless telegraph set which can be fastened to the frame of the aeroplane and operated either by the aviator or by the observer who sits by his side. Just imagine sending messages a distance of twelve to twenty miles while whirling through the air at a speed of fifty miles per hour at an altitude of 1,000 feet or more. Needless to say it requires a commendable brand of nerve. But there are other means of signaling which have been perfected especially for the use of the cloud climbers. Especially resourceful are smoke bombs by means of which a message is signaled the purport of the announcement being indicated to a person "in the know" by the color and form of the line of smoke. For night signaling rockets and colored lights answer the same purpose.

A Common Basis for Visual Signaling. To the uninitiated it may appear almost incredible but the fact remains that most of the forms of visual signaling in use in Uncle Sam's army and navy are merely variations of one basic system. The quick-moving signaller whom we see energetically waving small flags back and forth in the sunlight is in reality talking in the same abbreviated language that is employed after nightfall in communicating by means of the beam of a searchlight or the manipulation of an electric torch. The kinship of

these various forms of signaling is due to the fact that all the methods in the group are only plans of expressing and transmitting the dots and dashes of the Morse codes such as are in use in ordinary, everyday telegraphing. In military and naval operations two Morse codes are in use, namely the International Morse Code and the American Morse code. The former is the signal code for use in communicating between the Army and the Navy of the United States and is generally employed not only for visual signaling but for radio telegraphy and cable work. The American Morse Code, is however, continued by the Army on regular telegraph lines, on short cables and on field lines. For signaling with the International or General Service Code by means of flag, torch, hand lantern or beam of a searchlight (without shutter) there is but one position and three motions. The position is with the flag or other appliance held vertically, the signaller facing directly toward the station with which it is desired to communicate. The first motion, the dot, is to the right of the sender and embraces an arc of 90 degrees, starting with the vertical and returning to it. The second motion, the dash, is a similar motion to the left of the sender. The third motion, "front," is downward directly in front of the

Signaling by Flag and Voice at U.S. Seacoast Battery

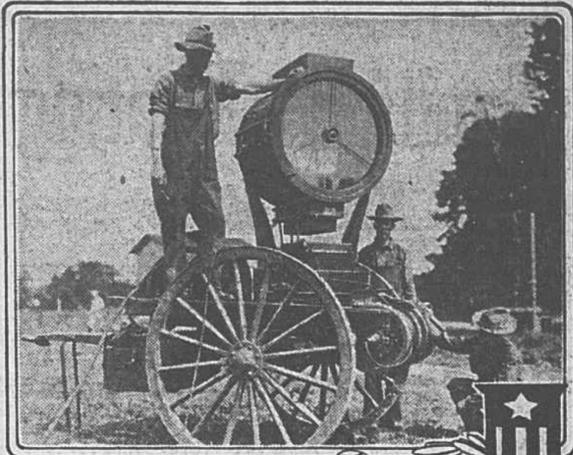
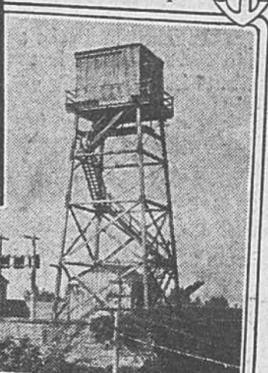
Electric Torch for Signaling on Battleship

Getting Out Colored Flags for Wigg-Wagg Signaling



The Signaling Tower Telegraph Lines Etc. of Fire Control System of a Modern Coast Defense

Electric Torch for Signaling on Battleship



Army's New Portable Searchlight - Searchlights are now used in both the Army and Navy for Signaling as well as for Illumination

paratively simple matter to spell out words. Perhaps you imagine that it must be slow work spelling out words in this fashion, but you would have a revelation on this score if you could but see an expert signaller make the regulation motions almost faster than the untrained eye can follow. The use of the searchlight for signaling is not merely a night-time expedient. In daylight the shutter searchlight can be readily used for distances up to ten miles at sea. Indeed this method of signaling is considered of exceptional value by the Navy in that it is independent of background and consequently in time of war can be used behind armor or other shelter. In the interchange of military and naval signals the sending of the message in fragmentary form is, of course, only half the responsibility. Great attention to detail is requisite in observing the signals in response and in repeating or translating them to the recording signaller who stands close by, book in hand. In receiving a message the man at the telescope is supposed to call out each letter as received and not to wait for the completion of a word. Two Arm Semaphore Most Rapid. Most rapid of all methods of sending spelled out messages is that which employs the two-arm semaphore. Both arms move rapidly and simultaneously, suggestive of the movements that might be made by the arms of a human being and the chief responsibility that rests upon the skilled operator is to hold himself in check lest he wiggle the vanes so rapidly that the motions will be blurred or run together. By means of electric bulbs placed on the vanes or arms the semaphore is just as serviceable for night signaling as it is for communicative work in the daytime. With many of Uncle Sam's military and naval sharps the Ardis system is a favorite method of signaling. This system consists of four lights usually electric, swinging from a staff, mast or yard. A red lamp indicates a dot and a white lamp a dash. As there are but four elements used in the Ardis system the numerals of the Code must be spelled out. The Ardis

lights are manipulated by means of a keyboard similar to that of a typewriter and upon the keys of which are marked the appropriate signal letters and signs. Wig-wag signaling, which is accomplished by means of small or hand flags, must not be confused with "flag code signals" which, as the term is used in the U. S. Navy, applies to signals made by hoists of flags. For signals by means of flags permanently hoisted there is an International Code consisting of 26 flags, one for each letter of the alphabet, and a code pennant. This system is used to some extent for communications between the army and navy, as, for example, at seacoast fortifications. Diverse Means of Signaling. Numerous as are the major methods of military and naval signaling, there are almost as many minor methods. For example, the letters of the International Code may be represented at night by slow-burning colored lights. Rockets and bombs, the former emitting red and white stars, are available for night signaling and for daylight interchanges we have smoke bombs and rockets—already mentioned in connection with signaling from aeroplanes. The Very pistol projects red, white and green stars to a height of 200 feet. They remain visible for some time and afford an excellent form of signal for use under certain special conditions. Then for use in fog, mist, etc., our army and navy have a wide range of sound signals which employ the megaphone, bells, whistles, fog-horn, bugle, trumpet and drum. Any of these sound producers may be used with the dot and dash code. For example, with the bugle, trumpet, whistle or fog-horn one short blast indicates a dot and one long blast a dash. With the drum one tap indicates a dot and two taps in rapid succession indicate a dash. On this same plan shots from field, siege or seacoast guns may be used for long-distance signaling. Finally it may be mentioned that our Army and Navy have a prearranged list of emergency and distress signals in all mediums, as, for instance the SOS of the wireless or the flying of the national ensign upon a down.

The Good Angel of the Balkans Is Coming To Study Our Hospitals - The First Reigning Queen Who Has Ever Set Foot On Our Shores - Othe Royal Visitors.

The first reigning queen who has ever set foot in the United States is to visit us in the latter part of May and will remain for five weeks or more visiting various parts of the country east of the Mississippi river. Various royal visitors—princes, grand dukes and even a reigning sovereign or two, have made official or unofficial calls upon Uncle Sam in days gone by, but Queen Eleanor of Bulgaria is the first feminine wearer of a crown to honor the republic with her presence.

Queen Eleanor is bound to interest the American people, as they come to know more regarding her. It is not too much to say that a canvass of all the ruling houses in Europe would not have disclosed another occupant of a throne who would inspire more interest and admiration than this journeyer from far-off Sofia. The explanation is found, of course, in the fact that Queen Eleanor possesses not only all the glories that attached to royalty but also the attributes of a remarkable woman who has done things worth while entirely outside and apart from her court life.

It is in nursing and hospital work that this consort of Czar Ferdinand has won a fame that would be ample and enduring even had she no halo of royalty. And it is this self-same interest in the cause of the injured, the sick and the suffering that is bringing the Queen to the United States. It is America's far-famed hospitals and sanitariums and training schools for nurses rather than the social life of our republican court that has impelled this "Good Angel of the Balkans" to journey from the farthest part of Europe to the New World. And instead of being accompanied by a brilliant retinue of courtiers and ladies in waiting from the court of Sofia, Queen Eleanor will have as her traveling companions a number of Bulgarian women whom she is bringing to this country in order that they may be trained as nurses in American institutions.

The Queen's Life Story. Eleanor of Bulgaria, although she

Queen Eleanor of Bulgaria to Visit the United States



Latest Portrait of the Queen



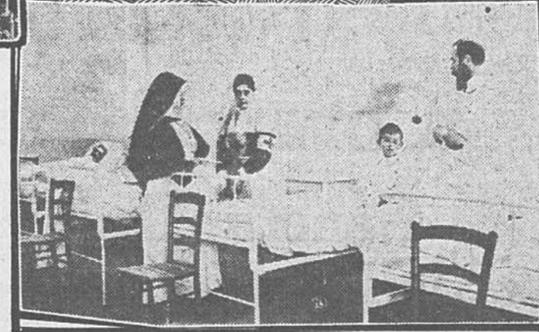
Queen Eleanor and the Two Princesses of the Royal House of Bulgaria



Queen Eleanor Visiting one of her Bulgarian Schools



Orchestra Organized in One of Her Schools



In the Role of a Nurse During the Balkan War

is about fifty-four years of age, is one of the latest additions to the list of occupants of European thrones. It was only in February, 1908, or little more than six years ago that King Ferdinand of Bulgaria married the Princess Eleanor, elder daughter of Prince Henry IV. of Reuss-Kostritz, and thereby elevated her to her present position of prominence. The first wife of Ferdinand was Princess Maria Louise, daughter of the Duke of Parma, whom he had married in 1893 and who died in 1899, the day after giving birth to a princess, her fourth child. It would be difficult to invest the marriage of Princess Eleanor and Czar Ferdinand with any atmosphere of romance. Rather was it one of those marriages of convenience of expediency which are so common among royalty. The court gossip of Europe would even hint that the King and Queen of Bulgaria are not exactly what might be termed in every-day life a congenial couple. Small wonder if that is a fact for in ideals, tastes and temperament they have little in common. Furthermore, it is

putting a severe strain upon probabilities to suppose that a princess who has lived the semi-independent life of an unmarried woman until verging upon the age of fifty would be content to sink her individuality and efface her ideals even when married to so masterful and ambitious an individual as the "Bismarck of the Balkans."

Owes Her Position to Russian Influence. As the story goes, she owes her crown to her long-time friendship with the Czar and Czarina of Russia. As a princess of one of the small German states whose rulers have been in power for centuries and have intermarried with all the great reigning houses of Europe, Eleanor was an inveterate traveler and spent much time in Russia, where she became fast friends with the Czar and Czarina. Naturally, the bonds of this friendship were strengthened when, during the Russo-Japanese War, the Princess Eleanor in pursuance of her charitable ambitions which have always inspired her, organized and took charge of her own hospital. Throughout the war she wore the uniform of

a Red Cross nurse and bore her share of the burdens of active service at the front. Back and forth she went with the armies in Manchuria, traveling on a hospital train that was frequently under fire. No wonder she received a popular ovation, as well as lavish court honors, when she returned to St. Petersburg at the close of the war. It was at this juncture that she attracted the attention of the widower of Bulgaria who was casting about for means to make secure his position on the Bulgarian throne and for opportunity to exchange his title of Prince for that of Czar. Russia had long exerted a dominant influence in Bulgaria but Rissia looked rather coldly upon Ferdinand because of certain past incidents, the recital of which would make a long story. The Bulgarian ruler made frequent visits to the Russian capital, but seemed powerless to win the favor and support of his influential neighbor. One day, as rumor has it, the thought occurred to him that if he could form a matrimonial alliance with the Princess Eleanor—bosom friend of the Czarina,

he could accomplish in a day what he had striven in vain for in these many years. So thus this royal wedding came about in the very year that Bulgaria declared herself an independent kingdom and Prince Ferdinand was proclaimed Czar, and the royal couple have lived more or less happily ever since. Probably Queen Eleanor could not be made to feel more at home in any of the world's capitals than she will in Washington, whither she will journey almost immediately upon landing from the steamer Kaiserin Augusta Victoria upon which she will journey from Hamburg this month. President Wilson has frequently confessed his dislike for the fuss and feathers of formal ceremonies, and in this respect he and the visiting Queen are of one mind. She cares not at all for pomp and plumage. Of course, the Queen has let it be known that she does not wish her tour of this country to be regarded as a visit of state, but for all that due honors must be paid to her, and Federal officials of democratic tendencies have sighed with relief when they found that the Queen is averse to all unnecessary ceremonial display.

The Queen's Work During the Balkan War.

When the full story of the recent Balkan War is written some of its brightest pages will be occupied by a recital of the heroism and self-sacrifice of Queen Eleanor in her efforts to carry relief to the wounded soldiers.

Her labors of love on the battlefield and in the cholera camp will entitle her to be known as the Florence Nightingale of the Balkans. It is related that even King Ferdinand was appalled by the lengths to which his kind-hearted wife went in her devotion to duty. As the story goes the King is in mortal terror of cholera and when the Queen returned from nursing the cholera patients at Adrianople the King placed the entire court under quarantine and would not see his royal consort for several weeks.

Nothing, however, could turn the Queen from her purpose to succor the injured and unfortunate. She organized Red Cross work in Bulgaria during the recent conflict and also took measures for the relief of the homeless and destitute who poured into the Bulgarian capital from the scenes of warfare. All the while she persisted in her educational work, not even allowing the exigencies of war to interfere with her management of institutions devoted to manual training, musical instruction, etc., etc. It is not too much to say that her unselfish labors in behalf of her adopted country have been largely responsible for making her husband's throne as secure as any in Europe—a marked contrast to the conditions of a few years ago, when it was considered one of the most insecure.

Will Meet An Old Friend in America. Queen Eleanor, during her stay in the United States, will be much in the company of two remarkable American women. One of these is Miss Mabel Boardman, the feminine moving spirit of the American Red Cross, and the other is Madame Bakhmeteff, the American wife of George Bakhmeteff, Master of the Imperial Court and Russian Ambassador to the United States. In the case of Madame Bakhmeteff the meeting with the Queen will be merely the renewal of an old friendship. Ambassador Bakhmeteff was, for years prior to coming to the United States, stationed at Sofia as the representative of the Czar, and his influence at the Bulgarian court was so great that he was sometimes referred to as the real ruler of the little country on the Danube.

It was but natural that the Queen should be attracted to the American wife of the Russian envoy, particularly inasmuch as the two women had much in common in their broad sympathy for humanity in distress. Incidentally, it may be mentioned that Queen Eleanor, who is a persistent reader, has always manifested a strong preference for books in English and thus has gained an appreciation and understanding of American sentiment and ideals possessed by many women of her rank in the other hemisphere.