

"BLACK LIGHT" IS TESTED OUT

Invisible Light Rays to
Be Used in Signal
Corps Work

PRODUCT OF SCIENCE

War Department Makes New
Contribution to Warfare
Methods of Future

By HARRY L. ROGERS.
WASHINGTON, May 7.—An important contribution to the science of warfare is expected to result from experiments with "black light" or invisible light rays, now being conducted by war department experts. It was learned recently.

Major-General George O. Squier, chief signal officer of the army, and radio expert of international repute, for months has been giving attention to the subject, and the experiments he has conducted thus far have proved almost uniformly successful.

"Black light," the general explained, is the name that has been given to light rays of greater wave length than those at the red end of the spectrum, or of lesser length than those at the violet end. The construction of the rays is such that they make no impression on the optic nerve, and they are therefore invisible under ordinary conditions. Nevertheless, they are generated by every candle, lamp, or other source of light, and scientists have devised unquestionable methods of determining their presence.

New Signalling Apparatus.

The experiments thus far conducted with these rays by the army, General Squier stated, have dealt primarily with the problem of devising suitable apparatus for utilizing them in signalling, but their possibilities are by no means limited to signalling alone. While much of the detail work remains to be done, the soundness of the principle is believed to have been demonstrated beyond a doubt, and further practical applications are merely a question of time.

The "black light" signalling system as now conceived may be likened to the ordinary heliograph used in the army, except that invisible light rays are used instead of the flash of sunlight, as projected by mirrors. The advantage in time of war of the invisible system, practically impossible of interception, over the heliograph, is obvious. A further advantage lies in the fact that unlike the heliograph the "black light" rays can be generated artificially, and therefore are not subject to weather conditions.

The idea that monochromatic light consists of a succession of simple harmonic vibrations in the ether, and that the sensation of color depends on the frequency of those vibrations, is believed to have been originated by Dr. Thomas Young early in the nineteenth century. Young and Fresnel were able to determine wave lengths ranging from .000076 cm. at the red end of the spectrum to .00039 cm. at the extreme violet end, and by means of a formula, calculated the number of vibrations per second.

Infra-Red and Violet Rays.

They were apparently convinced of the existence of invisible rays not included in the spectrum, but made little progress in their studies of these phenomena. Later investigators showed conclusively that the infra-red rays as well as the ultra-

Perhaps You Have Met This Hog at the Matinee Too

By A CYNICAL BACHELOR.
She, who would be the heroine of this story if only she were of the stuff of which heroines are made, reclined in the other night at the concert and took the next to the one nearest the aisle, which was mine. She flowed over that seat to such an extent that in self defense I moved over to give her more leeway. Her arm took all of the arm of the chair, and her elbow extended farther and kept me in a constant state of uncertainty for fear it was going to take liberties with my sensitive ribs, her feet, laboriously crossed, crowded nine into a corner. I hope that my ego and my single state are not making me crabbled, but I confess that I don't like to be thused and I felt like rise within me that my neighbor must needs have the privileges of a seat and a half with apparently no compensation whatever about what I was going to do about it.

Indeed, she seemed totally unconscious of me except as something to be gotten out of her way as she needed the room that I had. You must have sat by and experienced the type at some time in your life. I have before, but this time I was hungry for music, and she seemed more so to me now, therefore, settling herself, she unfolded her pocketbook, rattled its contents about in the frantic search for something that proved to be a nail file, raspingly finished her manicure, returned the file to the purse and closes the same with a loud and vicious snap. This while the program is being given. Cheerfully unconscious of the resentful glances of other of her neighbors she takes out her program, unfolds it with a great rustling, reads it fore and aft with more rustling, and then, it apparently having, disengaged upon her that something was going on up front, she was moved to ask me in appallingly audible tones who is singing now. With mute reproach implied, I point silently to the name on the program; with a gusty sigh she seems to be settling herself for a period of listening. I bless her mentally and compose myself for that for which I had come. My satisfaction, however, was previous; again those terribly audible tones as she informs me that she thinks that woman is the worst of them all.

Being a mild man by nature I am loathe to offend the woman but my outraged sense of propriety gives me strength to keep my eyes right in a feeble attempt to shame her.

violet rays are of the same physical nature as the luminous rays, differing from them only by the greater or smaller length of the wave.

The experiments conducted by war department scientists have had to do chiefly with the development of the most efficient means of generating "black light," the perfection of a device for projecting or transmitting those rays to great distances, and the construction of a suitable receiving apparatus for registering the signals.

Like the Roentgen, or X-rays, the "black light" rays have the property of penetrating substances impervious to ordinary light rays, thus permitting their separation from the luminous rays.

General Squier became interested in "black light" through his studies of radio telegraphy, a branch of science in which he is an acknowledged authority. About a year ago he started the scientific world by his announcement of the successful completion of his invention of the so-called "wired wireless" system, which permits of the use of un-insulated ocean cables.

For which I put myself on the back inwardly. For my neighbor is offended. The gives me a pitying and pithing glance and with a vast upheaval that shakes the entire row of seats she shifts her bulk so as to give me the benefit of a disdainful shoulder. I revel in the disdain and cherish the shoulder a good deal more than the elbow that still threatens me. I attribute my ear to my ruffled mind to the music. Then came the wail of an object moving over silk followed by a dull thud that told me something had dropped. I may be old and a bachelor, but the combination has not yet flattered myself, culminated in a penalty that blinds me to the opportunity of calamity; at the expense of a bumped head I rescue the pocketbook and restore it to the lady who gives me the cold and icy eye. Conscious of the exasperated gaze of those around me, I subside into my corner, hot and red faced and try again to listen.

But what's the use? You know her; she leans all over you in a constant attempt to see something up front— heaven knows what. At the end of the intermission I go, chastened and embittered and frustrated man.

ARKANSAS MEN INVESTIGATE CITY

Growth of Oil Interests in
Neighbor State Calls
for Action

The handling of oil credits as it is done in Tulsa, the oil metropolis of the country, is the thing that brought W. T. Maxwell of Little Rock, state banking commissioner of Arkansas and F. A. Pope of the state banking department to this city Saturday and that is keeping them here for several days investigating oil banking. Judge H. L. Stanford of the Exchange Trust company spoke last week before the state bankers' association of Arkansas upon the subject of oil banking; previous to this the people of Arkansas were content to leave in the main, the greater part of the development of its new oil field to outsiders and Shreveport got a large share of the banking business on the western hemisphere, and while the industry is a close one, the mines owned by a few men and

the first well there last January, Arkansas had begun to vision itself as one of the oil states of the country, and prompted by the Tulsa bankers' explanation of the caring for the financial interests of the industry and the handling of its credits, the two state officials came here to learn how to take care of Arkansas oil banking interests.

The Arkansas cotton crop is going to be cut from the million-bale production of last year a little more than half. Mr. Maxwell stated, bankers of Arkansas are encouraging diversification of crops, urging farmers to grow their own hay and feed instead of shipping it in from other states as they have been doing, and buying it to feed to their mules, and aid, eventually, in the production of cheap cotton. The bankers are likewise in favor of cutting down the size of the plantations that average from 1,000 to 4,000 acres, which are given over to cotton and are cultivated by negro tenants, to 500 and 100-acre farming tracts, only 10 per cent of the productive power of the land is realized because of the plantation plan, Mr. Maxwell believes.

One of Arkansas' claims to fame is its diamond mines in Pike county. These are the only diamond mines on the western hemisphere, and while the industry is a close one, the mines owned by a few men and

Comparatively few workers interested, they are noted the world over.

Undoubtedly Little Rock, already the financial center of the state, will be the hub for the oil industry, yet in its infancy, of Arkansas, Mr. Maxwell believes. The bankers will visit other parts of Oklahoma before returning to Arkansas.

Rotarians View Phone Plant.

Special to The World.

ENID, May 7.—The Rotary club of Enid was invited to inspect the Southwestern Bell Telephone plant Thursday. The Enid exchange, in the amount of business handled in the state, being surpassed only by Oklahoma City, Tulsa and Muskogee. One hundred operators are employed here, 52 being on long distance.

A. H. T. A. Elects.

Special to The World.

PICHER, May 7.—The local lodge of the Anti-Horse Thief association, at its meeting in the Masonic hall early this week, initiated 12 new members.

Quapaw Takes the Lead.

Special to The World.

QUAPAW, May 7.—The championship of Ottawa county, after a number of spirited contests, has been won by Quapaw, and was clinched by a 3 to 1 victory over Picher Tuesday.

Commencement Week Program.

Special to The World.

MIAMI, May 7.—The program of exercises for commencement week at the Miami high school has been completed, and included the following as its main features: Junior and senior party Thursday night, May 12; all school field day at Rockdale park Friday, May 13; baccalaureate sermon by Rev. G. A. Kleinsteiber at First M. E. church Sunday, May 15; senior class day Wednesday, May 18; commencement address by Dr. A. C. Scott Thursday, May 19; last day of school exercises Friday, May 20, including festival of final grade cards and checking up of teachers' reports.

Banks Continue Healthy.

Special to The World.

HTENRYETTA, May 7.—Notwithstanding the decreased activity in the oil field due to the drop in price of crude oil, and the complete shut-down of the zinc smelter because of an off market, the bank deposits of Henryetta continue in a healthy condition. The statement of the four city banks showing the First National bank at the close of business April 28, had deposits of \$1,934,712.95; Citizens bank \$80,000; Miners' National, \$760,821.95; and Henryetta State \$419,758.83, and the subsidiary bank of the Henryetta State at Dewar, \$200,000; making a total of \$3,167,292.76, on deposit at the close of business April 28.

IF YOU HAVE FURNITURE
FOR SALE, CALL US
Phone Osage 257. We Pay the
Best Prices
J. B. HAWKINS
FURNITURE
10 NORTH MAIN ST.

CLARK FLOWER SHOP
811 EAST THIRTEENTH
Cedar 2372
"Say It With Flowers"

Automotive Equipment Co. of Claremore

Wholesale and Retail

McGraw Fabric Tires, guaranteed 7,000 miles
McGraw Cord Tires, guaranteed 10,000 miles
Gasoline and Lubricating Oils
Standard Auto Supplies
Visible Gasoline Pumps and
Gasoline Station Equipment

13 East Seventh St. / TULSA, / Phone Cedar 72
330 East Second St. / OKLA. / Phone Osage 822
Third and Catalay, CLAREMORE, OKLA., Phone 26

We want reliable men to open branch gasoline stations for us in surrounding towns. Wanted, two City Salesmen with PEP. Call 8 to 12 a. m. or phone Osage 822 for appointment.

Auto Supplies and Tires Direct From Factory to consumer

NUF SED



OAKLAND

SENSIBLE SIX

Reduced \$260

Was \$1,585 Now \$1,325

F. O. B. Tulsa

This price applies to Touring and Roadster Models. All other
Oakland Sensible Six Models Reduced \$260.

Buy Your Oakland Sensible Six Now

These facts will convince you—

13 to 25 miles per gallon of gasoline; 8,000 to
12,000 miles per set of tires; exceptionally
low upkeep.

At this new low price the Oakland Sensible Six gives you all the
advantages of the six cylinder car at the price of a "four." Let
us tell you more about it.

Adams Motor Sales

809 South Main Osage 7640



Marmon Price Reduction The Talk of the Week!

Drop from \$5000 to \$3985 creates a
nation-wide discussion of fine car values.
Marmon 34 now on 1922 price basis

LAST Monday morning the famous Marmon 34 quadrupled its appeal among discriminating motorists. Thousands of people, hitherto anxious to own a Marmon 34, suddenly found it within their reach.

Based on 1922 prices, the reduction has proved an irresistible appeal to men who understand values. Particularly when one obtains the identical \$5000 Marmon 34, without the slightest cheapening. All the extra equipment is included.

This \$3985 car—improved and refined—is the finest Marmon ever built.

Never in recent

years has there been such an amazing situation nor such an opportunity to obtain a deluxe car at a comparable price.

It simply puts the Marmon 34 into a class of its own. No car at \$3985 can compare with the Marmon in design and construction. Its performance, its style, all its superiorities, give it a distinct position.

The announcement of 1922 prices NOW has brought instant response. So there is no need to warn you that you should place your order early so as to insure prompt delivery.

MARMON 34 PRICES

	NOW	WAS
7-Passenger Touring	\$3985.00	\$5000.00
4-Passenger Touring	\$3985.00	\$5000.00
Club Roadster	4185.00	5300.00
Speedster	4875.00	6150.00
Coupe	5275.00	6600.00
Sedan	5400.00	6800.00
Limousine		
Town Car		

All prices at Indianapolis and subject to war tax

W. C. Norris Motor Sales Co.
701 South Main Osage 5300

NORDYKE & MARMON COMPANY Established 1881 INDIANAPOLIS