

ENGINEERING

Modified Blackouts Suggested By Electrical Engineer

**By Dimming Only Tell-Tale Patterns of Lights Along
Highways, Avenues and Bridges, Enemy Would Be Fooled**

MODIFIED blackouts, or "dimouts" for American cities were suggested by S. G. Hibben, electrical engineer and member of the National Technological Civil Protection Committee at a military protective lighting symposium in New York. The symposium was held as part of the American Institute of Electrical Engineers' mid-winter meeting.

Mr. Hibben stated that adoption of European all-out blackout methods may be unnecessarily dangerous and is certain to be costly for American cities.

"If the main signposts leading to targets cannot be located (by enemy pilots)," Mr. Hibben said, "90% of the big job has been done. It makes little difference to a pilot that there may be countless fireflies of light in residential areas on the ground. He must disregard the aimless twinkling of meaningless lights and look for main arteries and important centers like Broadway and Times Square, from which he must calculate the location of objectives."

Mr. Hibben suggested that by blacking out only tell-tale map patterns made by prominent avenues, bridges and highways, targets will be as obscure as it is economically practicable to make them.

Questioned concerning Mr. Hibben's plan, OCD officials in Washington re-

fused comment, except to say he was being listened to "with care."

Meanwhile OCD, it was learned, will announce shortly the selection of six universities divided between the east and west coasts to train "super-instructors" in air raid procedure. These super-instructors, selected by their communities, will be used to train other instructors, who in turn will set up classes in the communities for citizens.

Communities within 300 miles of either coast will be singled out for emphasis in instruction, OCD officials said.

The first of the University classes for super-instructors will open in California by the second week in February.

Classes for super-instructors will operate under the War Department, and will offer 83 hours instruction during a two-weeks' course. The instruction will include extinguishing of incendiary bombs, gas decontamination, and organization of training centers.

Super-instructors are to be selected by communities on a quota basis, with emphasis on the coastal cities, it was explained.

A model course for super-instructors has been in operation for some weeks at Edgewood Arsenal, near Aberdeen, Md.

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"The best way to utilize this increased release of national energy is for people to put more energy into their daily routine and for us speedily to find war-effort jobs for every man, woman, and child not otherwise employed. If this is not done, people will 'emote' too much, damage their mental and physical health."

The manner of presenting the news is perhaps more important than the content. Strident, excited voices damage morale. Calm, factual presentations create confidence. It is much more serious to put rumor and unconfirmed reports on the air than to publish them in a newspaper, the editorial states.

"The press has a professional tradition that distinguishes clearly between the news and 'allegations' and rumors. In addition, the reader is not hurried, can check and compare, and is not so stimulated by printed words as hearers are by spoken words."

"Probably no good purpose is served by broadcasting anything from the Axis powers, even including their official communiques," the editorial says. "While we know they are mainly lies or twisted truth, they still confuse, irritate, spread doubt and fear, and rouse pointless rage. All of this uses up the energy and wastes the emotional drive that should go into the war effort. It lessens morale."

"It is also undesirable that the same news should be repeated over and over even when it is authentic and has been approved by responsible persons. Perhaps four officially sifted news periods a day would be enough. It would save millions of hours of pointless listening, millions of kilowatt hours of electricity, and billions of ergs of emotional power."

"A good slogan for this war would be 'Less Listening and More Labor.'"

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PSYCHOLOGY

New Mental Ill Forecast; It Is "Radio Fatigue"

"**R**ADIO fatigue" is a new mental disease forecast editorially by the *American Sociological Review* (February).

If it develops as a mass affliction of the American radio public, it will be from an excessive listening to emotional broadcasts of war news, and ranting of misguided propagandists who stir up "ephemeral emotion which cannot build tanks but does disturb digestions and impair mental and physical efficiency."

"The first news of the bombing at Hawaii probably released enough energy," the editorial stated, "caused enough emotion, to build thousands of tanks and bombers—if it could have been directed into proper channels. As it was, it merely produced headaches, stomachaches, sugar in the urine, loss of sleep, and widespread wastage of our most precious national resource—emotional drive. Thus, it damaged morale—for the moment."

PSYCHIATRY

Absence of Uniforms Seen As Preventing Neuroses

UNIFORMS may be a hindrance in many volunteer jobs when you're trying to inspire confidence rather than obedience.

Now that some of the arguments over women's uniforms seem to have been ended by a cloth shortage, this may be welcome news to many volunteer workers.

Physicians in naval hospitals have found that wearing uniforms actually diminishes their patients' confidence. Particularly on the psychiatric wards the Navy psychiatrists try, so far as is com-

patible with wartime orders, to dispense with any awe-inspiring insignia of rank. Patients will not respond if they think they are being ordered to "get well" by a superior officer. This is in line with Navy usage regarding titles. Doctors are referred to and addressed as "Dr. So-and-So" rather than Captain or Commander.

According to British experience, it is vital for volunteer defense workers to inspire confidence in bomb-shocked civilians and encourage them to pour out a

complete story of their frightful experience. Organized "listeners" are being trained in England for this purpose. It is the best preventive, say modern psychiatrists, for severe war neuroses, particularly if the victim can be encouraged to express his emotions freely.

Just as everyone finds it easier to tell his troubles to a sympathetic neighbor than to a policeman, many women war workers will find they can be of greater service by not wearing uniforms.

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for most people to this day. Perhaps it did not have a fair trial.

Saving of punctures rather than saving of rubber being the main object, most of these ancient spring wheels were equipped with solid rubber tires. In that case it is hard to see any advantage in putting the springs and shock-absorbers on the wheel rather than on the vehicle. If on the vehicle, the waste and expense of throwing away the old wheels and manufacturing innumerable new ones, using up critical materials, would be avoided.

When rubber or some similar material is put on automobile wheels, half the problem of taking out the vibrations is already solved. Rubber absorbs the small high-frequency vibrations—the kind that produce sound. That is why the rubber-clad wheel is silent while the steel-clad wheel is noisy and grinding. Springs and shock-absorbers of appreciable dimensions take up only the jolts and major vibrations. The short-period ones pass through the system almost as though it were a rigid body, and are communicated to the vehicle. In time they shake the car to pieces, loosening the nuts and screws.

In the old-time automobile, nuts and screws had to be tightened frequently. But this was due to poor engine balance, not to inefficiency of the tires. Enormous progress has been made in late years in engine balance, particularly in damping out these high-frequency vibrations.

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ENGINEERING

Rubberless Wheels Are Not Considered Generally Practical

Spring Wheels, Originally Intended To Reduce Number Of Punctures or Blowouts, Might Be Used on Rural Roads

WILL the rubberless wheel, the automobile wheel with springs and shock-absorbers, take the place of the rubber tire? Some think it will to a limited extent if the rubber shortage continues. Others believe it is utterly impractical.

If no rubber were available, some government engineers believe we would have to come to some such thing, whatever its disadvantages and discomforts, or else return to the horse and buggy era, if we could get the horses and the buggies. Before that point is reached, the spring wheel might find some use on trucks, farm wagons and even on passenger cars in the rural districts.

One such wheel has proved relatively adequate under rural conditions. It does not, to be sure, provide the smooth riding

qualities or permit the high speeds of the most modern streamlined cars. No rubberless wheel can do that. It is a question of how much discomfort and inconvenience we are willing to endure in order to save rubber for war purposes.

At the National Bureau of Standards, the spring wheel was pronounced to be "out of the question." The main obstacle, they said, was excessive wear—of road surface, wheel and vehicle. Rubberless wheels on heavy vehicles are not permitted on hard surfaced roads in any part of the country, and the load restrictions on solid rubber tires have been so increased that nearly all trucks have abandoned the solid for the pneumatic tire. While a spring wheel could be designed that would accomplish a large part of what the pneumatic tire does, it would be complicated and expensive and still inferior to a small rubber tire of the most inferior grade. It could not compete even with such a tire.

In the early days of automobiles there was a huge crop of spring wheels. The files of the U. S. Patent Office are full of these inventions. Most of them are on the "crackpot" side, but a few had merit. The chief incentive in those days was to avoid the frequency of punctures and blowouts in the tires then used. And in the absence of shock absorbers and snubbers, some of these wheels might have done as well. But with improvement in tires and the addition of these devices, the spring wheel was pronounced impractical and so has remained

ENTOMOLOGY

Fumigant Kills Insects In Stored Grain and Flour

A NEW fumigant for grain and flour, highly penetrating, deadly to insects but harmless to humans, is announced by the University of New Hampshire. It is known to chemists as chlorinated nitroethane.

The compound is a clear liquid with distinct but not disagreeable odor, stated to be safe to ship in ordinary containers. It evaporates readily on exposure to the air, and the fumes penetrate quickly into even large masses of grain or flour. A simple method of fumigating grain in cars consists merely in putting the chemical on top of the grain and then sealing the car.

Fumigation costs are said to be low, with no special apparatus required. The last traces of odor quickly leave the fumigated products after brief exposure to air.

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