

pastel shades, colors that are easy to live with all day.

Two colors very suitable for this purpose are "Spotlight Buff" and "Spotlight Green," the engineers have found. These "spotlight" colors provide what

they call "three-dimensional seeing." This system has received warm praise in the factories where it has been applied. The seeing was not only better, but pleasant and restful to the eyes.

Science News Letter, October 3, 1942

PSYCHOLOGY

Work—But Not for Pay

War-lonely women, emotionally stranded when their husbands go to war, are advised to volunteer for a war job, but if possible to refuse wages.

► WAR-LONELY WOMEN who don't need work, but who want to get a war job as a means of forgetting their troubles are advised to volunteer for work with the Red Cross, OCD or some similar job without pay. This counsel comes from a Washington psychiatrist familiar with the problems of war-hit women, Dr. Benjamin Karpman, of St. Elizabeths Hospital, in Washington, D. C.

"A woman who accepts work at a salary may have her time well occupied while she is on her job," Dr. Karpman said. "But when she goes home at the end of the day to her empty room, the pain of separation from her sweetheart, her husband or her son returns. She is emotionally stranded."

"If, however, she can feel that she is giving of her time, her strength and her life for the winning of the war in just the same way as is the man she loves, she is building a tie between them that the miles of distance can never destroy. This dissipates her anxiety."

The plight of the "girl he left behind" is a serious one from the standpoint of mental health, Dr. Karpman emphasized. It is especially hard for the young war bride whose husband has gone to the front.

The painful loneliness of the emotionally-stranded woman is built up by the continual denial of the instincts normally satisfied in married life. A woman's instinct, Dr. Karpman explained, is like a negative electrical potential. Electricity cannot flow until the negative charge finds a path to a corresponding positive charge. In very much the same way, a woman's unsatisfied love builds up a potential of emotion which cannot be dissipated until she is re-united with her husband.

If, however, the lonely woman can

find a "cause" or an occupation that she more or less unconsciously links in her heart with the absent loved one, she can lavish on her work the emotional energy that is pent up within her. This sort of substitute for normal family life can never quite take the place of the real thing, but it will give a lot of satisfaction, especially if it is work that is generally considered worth while and necessary.

The same satisfaction is obviously not found in a job for which payment is taken. This involves no sacrifice — no labor of love—it becomes a mere exchange of time for money without investment of emotion.

GEOLOGY

Oil For Alaska Highway

► AVIATION GASOLINE and diesel engine oil will soon be flowing through a new pipeline toward the Alaska highway from oil wells and the world's most northern refinery at Fort Norman on the Mackenzie River in Canada 125 miles south of the Arctic Circle. Vast untapped tar sands in northern Alberta are being mined for oil, gasoline, asphalt and coke.

The wells at Fort Norman have been in existence since 1921. They were little used, however, in fact were capped until 1930, when discovery of radium on Great Bear Lake shores brought aerial prospectors in vast numbers. Shortly after the outbreak of war a new refinery was built at Fort Norman producing aviation gasoline and diesel engine oil. This plant, according to Munitions and Supply Minister C. D. Howe, has now been expanded, and will likely be in use for a longer period than just during the summer, as it has since installation.

A young girl who has not yet found a permanent attachment may be lonely, too, with so many boys gone to camp or away to war production jobs. But she can always hope for her Prince Charming to come to her, perhaps in the person of some soldier home on furlough. Meantime, she can find diversion in dancing or going to the movies with whatever boys may come and go in her neighborhood.

But whenever a young woman accepts the courtship of a man, somewhere back in her mind, perhaps unconsciously or perhaps half-consciously, is the hope that it may realize itself in marriage. Going out with a stray young man takes away that hope and, therefore, she doesn't get as much satisfaction from her diversions as she would otherwise.

It must also be remembered that as a majority of the younger men are disappearing, the proportion of women keeps increasing, and the opportunities for going out with the opposite sex are proportionately decreasing.

Such diversions are not possible, however, to the woman who has already found her Prince Charming and married him. She has had, perhaps, a few blissful weeks or months of happy married life and then when he went to war she was left with an emptiness in her heart which only he can fill.

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"An intensive study of the tar sands is under way at present time," stated Minister Howe, in Parliament. "Today we think of that area as a source of immediate oil production, provided the problems connected with its development can be solved rapidly and with some degree of certainty. Arrangements have been made to develop further the wells on the lower Mackenzie River at Fort Norman. Additional wells are being drilled, the refinery capacity is being increased, and a short pipeline is being installed to bring the oil across to the location of the Alaska highway."

From the sands along the Athabasca River in Northern Alberta, Indians have since time immemorial used pitch to caulk their canoes. The first white man to come into the area in 1788 found the oil sands to stretch for miles, in some places found oil bubbling to the surface. Since the settlement of Alberta many attempts have been made to obtain oil

from these oil-rich sands. Last year the first successful commercial extraction plant began operations to obtain lubricating oil and gasoline from the tar sands.

The oil sands along the Athabasca River are considered by oil authorities to be one of the largest oil reservoirs in the world. According to Canadian government geological estimates, the oil sands contain at least one hundred billion barrels of oil. But it will be a big job to get it out.

Because of transportation difficulties and because no suitable extraction system had been devised, the oil sands remained unworked. These oil-saturated sands range in thickness from a few feet to 225 feet, and in oil content up to 25% by weight. They cover an area estimated at from 10,000 to 50,000 square miles. A large part of the area is overlain with shale and sandstone up to a maximum depth of 1,800 feet, and underground methods of mining are not considered workable. The oil will not flow into wells fast enough to be pumped commercially. But erosion on the Athabasca River and its tributaries has left benches that can be mined by open pit methods.

The bituminous sands have produced a high quality of asphalt which has been used for paving fairly extensively in the past, and it is expected to be used for this purpose also on the Canada-Alaska Highway now being built.

They stretch for miles on each side of the river, covering roughly an area 115 miles north and south, and 55 miles east and west. The sands lie about 600 miles north of the international boundary in an area which can be developed the year-round.

The extracting plant which went into operation last year on a small scale took 11 years of research by American engineers to develop. The sands go through a separation process, then to a refinery where the crude oil is turned into gasoline, diesel fuels, fuel oils, asphalt and coke. It is thought that synthetic rubber may also be developed from these bituminous sands after they pass through the separation process.

Science News Letter, October 3, 1942

An estimated 80,000 machining operations go into the making of one airplane.

One thousand gallons of industrial alcohol per day are being produced from potatoes in Ireland.

PHARMACY

Ointment Base Improved

New ointments can be washed off with water. Mixture combines readily with common medicines, withstands severe changes of climate. Base has many advantages.

► OINTMENT BASES that can be whisked from clothes or skin with plain water have recently been developed by pharmacists. Greasy, messy ointments and salves may soon be out of your medicine cabinet.

Many formulas for the new type of ointment have been proposed, few have been very successful. The most promising to date is announced in the practical edition of the *Journal of the American Pharmaceutical Association*.

The new ointment base was developed by Dr. Emerson C. Beeler at the laboratories of the American Pharmaceutical Association. Smooth and "washable," the base consists of cetyl alcohol, white wax, propylene glycol, sodium lauryl sulfate, and water.

The alcohol used is a giant molecule, compared to your rubbing alcohol. This makes it a white, wax-like solid. In combination with the "wetting" agent, sodium lauryl sulfate, it causes medicinal agents to penetrate the skin better. It is also greaseless.

Because the medicine is transferred through the skin more readily than when old-type vaseline or wool-fat bases are used, Dr. Beeler points out that medicines can in some cases be used in lower concentration than formerly, thus conserving supplies.

It also permits the heat of an inflamed area to escape more readily; discharged fluids are not sealed in as is often the case with greasy salves.

But the cetyl alcohol and "wetting agent" would be useless without the colorless, odorless chemical — propylene glycol. This is widely used to make the creams and salves in your medicine cabinet soft and spread smoothly. It is also a good solvent for carrying such medicines as vitamin D and the sulfa drugs.

Mixed properly by the pharmacist, these ingredients can be used to carry many valuable medicines used for a variety of conditions, especially skin diseases.

Many bases of the "washable" type formerly tried, were of limited value because the medicines which they carried were chemically altered by the base.

The new base has already been used to carry many of the commonly used substances, Dr. Beeler reports, and no difficulties have been encountered.

"It is apparently compatible with every medicinal substance with which it has been tested . . ." he reports.

Neither is this easily prepared base affected by severe changes in climate, such as might be encountered in military medicine.

"It has been alternately placed in the freezing unit of the refrigerator and in an atmosphere at 50 degrees Centigrade temperature (122 degrees Fahrenheit) at a 24-hour interval for a period of two weeks," Dr. Beeler declares, "without affecting the general properties."

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