

# AUTOMOBILE

## REGULAR HEAT FOR ENGINE IS LIFE OF AUTO.

The engine of the automobile, like its owner, needs to keep fairly cool in order to accomplish the best results. Every once in a while one can observe a car standing by the roadside "all hot up." Such a machine usually is standing instead of going on its way. And it is usually steaming away like a factory whistle at noontime. The use of the thermometer would doubtless indicate a high fever. It is good for the automobile owner to understand the principles of engine cooling and to know why it is necessary for some cooling system to be functioning properly in every automobile. The auto engine derives its power from heat. A charge of gasoline, mixed with air, is taken with the cylinder of the engine in a comparatively cool state. In the cylinder it is compressed and ignited. As it burns the temperature is greatly increased and the pressure in the cylinder increases in proportion to the increase in the temperature. In this way power for driving the machine is derived. The excessive temperature, which runs up to about 3,000 Fahrenheit, however, heats the working parts of the engine, namely, pistons and cylinders, to such a degree that unless some of the heat is dissipated it would be impossible to maintain a film of oil between these work-

ing parts. Consequently they would bind or stick and the engine could not run. In addition, the metal parts forming the combustion chamber would get so hot that the incoming charge of fuel would be ignited when contacting with them.

Therefore it is necessary to carry off enough heat to keep the working parts at a temperature that will permit proper lubrication and insure control of the ignition. On this account every automobile is provided with a cooling system.

There are two methods of cooling an auto engine, namely, by air and by water. In the air-cooled system the heat is carried away from the cylinders by a steady stream of air which is caused to flow over the cylinders. The efficiency of this operation is increased by providing many projections or fins on the cylinders, which in turn provide a large area for the air to act upon. The result is a ready exit for the heat.

In the water-cooled system the air carries off the heat as in the air-cooled system, but indirectly. Here the heat is absorbed from the cylinders by water carried in jackets surrounding the cylinders. The water then flows to the radiator, where the air extracts the heat from it.

## The Rural Dealer Speaks.

Of all the salesmen who drop in I like Jim's company best; There ain't a one so full of fun, He's different from the rest.

He hangs around an hour or so, And gosh! but ain't he witty? He sits an' smokes and springs new jokes An' wise-cracks from the city.

Jim tells me all the latest news 'Bout stocks an' ships an' shows, He's up to snuff on all that stuff, Lands sakes! What that man knows!

The other men are nice, but then They're not like Jim a' tall; They up and tell what they've to sell, It's just a business call.

But strange now when I come to think, The rest ain't smart like Jim; An' yet 'er gee! them boys sell me A lot more stuff than him!

—J. E. Cashin.

## Laying Cables by Plows.

Shortage of manual labor, particularly trench diggers, has caused the adaptation of many mechanical appliances to work ordinarily done by hand. One of the most successful of these innovations has been the laying of telephone and electric light cables by means of plows. As high as 1,500 feet of lead covered cable has been installed by this means in a day, not a bad record by any means. The motive power for the plow was a gasoline engine and the cable was pulled along beneath the surface by the plowshare. Of course, its successful utilization depended largely on the character of the soil, because the plowshares would be diverted were rocks encountered. Thus far the experiments have been limited to laying cables across large lawns or through parks, but the idea has proved its worth.



## Or Was It Only Hired?

"And, my dear, that Brown girl must have worn a torn dress to the dance!" "You don't say!" "Yes; I heard Mrs. Jones say she had to settle for the rent of it next morning."

## THIS IS THE FOREST THAT GOD MADE

"Plagues are made by fools like me But only God can make a tree." — Joyce Kilmer.



This is the forest that God made.

This is the tree that flourished and grew Beneath the skies of an azure blue, Within the forest that God made.

This is the camper that came that way, Just on a picnic to spend the day In the shade of the tree that flourished and grew Beneath the skies of an azure blue, Within the forest that God made.

This is the camp-fire neatly laid To boil the water, when tea was made. Lit by the camper that came that way Just on a picnic to spend the day In the shade of the tree that flourished and grew Beneath the skies of an azure blue, Within the forest that God made.

These are the embers carefully left By the thoughtless wight of wits bereft, From the same camp-fire so neatly laid To boil the water, when tea was made, Lit by the camper that came that way Just on a picnic to spend the day In the shade of the tree that flourished and grew Beneath the skies of an azure blue, Within the forest that God made.

This is the fire that travelled wide And devastated a countryside, Caused by the embers so carefully left By the thoughtless wight of wits bereft, From the same camp-fire so neatly laid To boil the water, when tea was made, Lit by the camper that came that way Just on a picnic to spend the day In the shade of the tree that flourished and grew Beneath the skies of an azure blue, Within the forest that God made.

These blackened spectres so gaunt and bare Are all that's left of a sight so fair In the track of the fire that travelled wide And devastated a countryside, Caused by the embers so carefully left By the thoughtless wight of wits bereft, From the same camp-fire so neatly laid To boil the water, when tea was made, Lit by the camper that came that way Just on a picnic to spend the day In the shade of the tree that flourished and grew Beneath the skies of an azure blue, Within the forest that God made.

## Listening to Music.

It is assumed that one who attempts to partake of the mental food provided by a musical recital or lecture must of necessity be in a receptive mood or a state of mind permitting the absorption of suggested ideas. The hearer must strive for "individuality" in listening. It is very easy to "hear" without intelligent attention. With compelling sympathy we do see the absent-minded individual who does not listen at all, but sits aimlessly, waiting for something to happen. "Hearing, they hear not; neither do they understand." Music for people of this calibre is mere sound, because they do not give it either emotional or intellectual interpretation.

In listening to a piano recital, a great deal depends upon how much a person is interested in the music and in the performer. A great many people listen only to the composition, and there are others who concentrate their thought upon the performer—how he looks, his technique and his mannerisms. These ideas are only secondary considerations, because the truly intelligent and educated listener will endeavor to understand the meaning of the composition and will also endeavor to appreciate the manner of interpretation. The cultured, musical person will be satisfied with nothing less than the fullest enjoyment, coming of an appreciative understanding of the composition and the performance.

Music expresses thought, with or without emotion. There is such a thing as purely "intellectual" music—for instance, strictly constructed canons and fugues, which are essentially scientific works, more the product of calculation than of inspiration, and frequently written with an utter absence of emotion. But the chief uplift of music is in its appeal to the heart as well as to the mind, in portraying emotion clothed in musical thoughts conceived by the emotions. Therefore, music should express both emotion and thought, which two result in expression.

## The Value of Imagination.

Imagination is a powerful factor in developing a true artistic temperament, and reading is a useful instrument in awakening imagination. To read biography, history, general as well as musical criticism, and writings on the principles of art, is to acquire a fundamental process of reflection, will generate imagination. To know the experiences of great musicians, learning what to avoid as well as what to appropriate, is an education in itself. To know thoroughly music and musicians, to cultivate susceptibility to all things that are beautiful, to develop the understanding and judgment, to keep the mind alert and ready to react to the stimulus of music, is to cultivate the true musical temperament. And then to combine with this association with one's fellows trying to catch their viewpoint and to understand their attitude and their limitations is to conserve the musical temperament, keeping it free from artistic foolishness and continuing sane and companionable.

## Taking It Viz Him.

A Frenchman with a rather limited knowledge of the English language entered a chemist's shop in London and asked for some face-powder. "Will you have it scented?" inquired the assistant. "No," was the reply. "I will take it viz me."

## Where Are the Instruments of Our Youth?

One of the daily papers recently lamented the fact that with the exception of the mouth-organ, many of the musical instruments of our growing days are now no more. The concertina is nearly out of vogue, and the accordion survives only in vandellio. The time-honored dulcimer, with its two bridges, multifarious strings and padded hammer, no longer soothes the sensibilities of the farmhouse family as it did in the old days when it was brought down from the attic, tuned up and set going on the kitchen table. The tin whistle is almost obsolete, and the guitar has become a museum rarity. The mandolin seems to have gone into a decline; banjos never "tunk" any more, and the lute has heard its deathknell.

## Britain's First Church.

According to tradition, Joseph of Arimathea reached the shores of Britain in the year of the Christian era 61, settled at Glastonbury with eleven companions, and built the first church. Its length was 60ft. and its breadth 26ft. The walls were made of twigs and branches twisted together after the ancient custom.

Professor Willis, in his "Architectural History of Glastonbury Abbey," records that "on the spot where the present church stands there existed a structure of twisted rods, or bundles, which was believed to have been built as a Christian Oratory, and reported to be the earliest church in Britain. It bore the name of 'Vetusta Ecclesia,' the 'Old Church,' and was dedicated to the Virgin Mary."

Bad luck means poor effort; poor effort means bad luck.

## Possibilities of Establishing Coking Industry.

The central part of Canada is feeling the need at the present time of a ample supply of domestic fuel, of the high quality at a reasonable price. The great strike of last year in the anthracite field was the cause of acute shortage last winter but the attention thus drawn to the subject has shown that the deposits of anthracite coal are limited and that the supply is being used up with comparative rapidity. To assist in the obtaining and distribution of fuel of some kind to tide over this strike period, fuel committees, federal, provincial, and municipal were created. These committees functioned through the winter of 1922 and are still in operation, but they do not touch on the larger problem, that of obtaining a suitable domestic fuel to take the place of anthracite. It was to deal with this problem that the Dominion Fuel Board was established by Hon. Charles Stewart, Minister of Mines. The function of this board is not to find fuel for a few months during an emergency but to carry on investigations which may indicate to citizens a permanent source of supply. Their task, therefore, is a large one which will take time for completion.

Various lines of investigation are being followed, among others that of the commercial feasibility of producing coke in by-product recovery ovens in our larger cities. The field work in this investigation is practically finished and the information collected is now being prepared for publication. While the details are not yet available it may be stated that conditions are found to indicate that the erection of a plant at several points would be a warranted commercial venture for individual firms or corporations. Investigations are also being carried out by the board in conjunction with the Mines Branch to determine the coking qualities of Nova Scotia and New Brunswick coals, and it is hoped these may be available for this purpose and thus reduce the supplies drawn from abroad.

## The Child Spirit.

No wonder a large part of the teaching of religion has been that if we would be saved in this world or any other we must get away from maturity that knows too much, that is cynical and sophisticated, that is ready to impute motives and surmise the worst, and go back to the wide-eyed faith of childhood's innocence. It will not do for the world-wise and the world-weary to scoff at that belief which a child brings to bear on all that is round-about. Of course, it is no true service to those who are growing if those who are grown keep from them plain truths, harsh facts they need to know for self-defence. But the education should be gradual; it should not be hurled upon the young learner all at once like an avalanche descending the mountainside to overwhelm whatever is below.

All our learning as we grow older is a mournful thing if we have left behind entirely the child we used to be. If we can no longer enter into a game with rapturous abandon, then time has grown old. If our enthusiasms are stunted, our reactions to our surroundings sluggish, we have lost something out of our lives that nothing replaces. If for us there are no longer mysteries we cannot explain, if Pan has left the reeds along the river of our lives, we have ceased to be children; and what have we received in place of the glamor and the magic? For its "old" people who have kept the child irresistibly in their blithe humor all their days, the earth gives thanks; and those who left the child behind them long ago and are now disheartened, morose and selfish, will be no great loss when they go.



## Renewed With His Love

Mary—"I think Maybelle is wearing the engagement ring I returned to Charlie last month; but I hardly recognized it." "Maud—"It's been replated, my dear."

If you want a clear conscience, keep a clean mind.

## Natural Resources Bulletin.

The Natural Resources Intelligence Service of the Department of the Interior at Ottawa says: Few of Ontario's population are aware of the extent to which the Norfolk Provincial Station is contributing to the upbuilding of the forest industry of this province. While the total area of the Forest Station is 1,600 acres, the actual nursery covers 100 acres. From this nursery there were supplied this year 1,000,000 trees to private individuals, 2,240,000 transplants to two new government nurseries, and planting material for 400 acres of 19 state and municipal reforestation projects throughout the province. At present the nursery contains 7,000,000 seedlings, plants and 11,000,000 seedlings. The conifers mostly grown are white, red, Scotch and jack-pines, white spruce, European and Japanese larch, and white cedar, while the hardwoods are mainly hard and soft maples, walnut, hickory, ash, cherry basswood and black locust.

## The Dangerous Addict.

Nine thousand five hundred Canadians—many of them under twenty-five years of age—means on the one hand that the illicit traffic in opium, morphine, heroin, cocaine, etc., is extensive, and on the other that a mighty appeal to heart and conscience is made to all Canadians to come to the help of these poor slaves. Their plight is pitiable in the extreme. The use of these drugs debases the will, deadens the conscience and so affects the whole nervous system as to render its victims more helpless far than the victims of tuberculosis or typhoid fever. They are depressed as well as deprived. Imprisonment is the only door we open to them now. It closes behind them for a season. But in due course they come out unhealed and unhelped to return to their hopeless bondage. The prison is the place to put the traffickers. The hospital is what the addicts need—a hospital where medical science will heal the disease and spiritual influence will restore moral vigor and religious faith and hope and power.

And no government or city in Canada has undertaken to supply the need.

A pitiful case of a young nurse from rural Ontario recently appealed to us for direction where to go for treatment. No door was open. We were helpless. She was left perforce without hope. Surely this ought not so to be.

Yet it is not likely to be changed until large numbers of citizens bring pressure to bear on the Provincial Governments to supply provision in special or general hospitals for closely supervised care and treatment to which hospitals or wards magistrates can commit addicts brought before them, and into which addicts without commitment may come of their own choice and be brought by friends or physicians. If every reader of this little article would write at once to his or her own government urging action something would result. Why not? Do it now!

The Federal Dept. of Health, supported by the Dominion, provincial and municipal police and the coast service men have accomplished much in suppressing or reducing the volume of the traffic wholesale and retail. The reduction in importation is shown in the following table:

Cocaine	Morphine	Opium
1919 . . . 12,333 oz.	30,057 oz.	34,263 lb.
1923 . . . 3,330 oz.	10,498 oz.	1,373 lb.

The number of convictions by the Federal police and secret service in 1922 were 845. In 1923 the number was 692. In the first six months of the year that will end March 31st, 1924, it is 174. There is a steady decline. Of the 174, 91 are in British Columbia, and of these 82 were Chinese. Forty-three are in Quebec, of which 20 are Chinese.

The international traffic is getting increasingly difficult for the traffickers. Switzerland has just ratified the Treaty of its suppression. Much of the drugs heretofore have come from that country. One of these days the world ring will be caught and the back of the wretched traffic will be broken. The outlook is hope-inspiring. A better day is dawning.—Dr. J. S. Shearer.

## Motor Safety Device.

Broken front axles of automobiles have caused many serious accidents, often with loss of life. To avoid such disasters a Danish automobile maker has invented and tried satisfactorily a device to keep the car upright in case a wheel comes off or if the front axle breaks. It consists of a pair of trailing shoes made of spring steel of varying widths for different sizes of cars.

When the accident happens the car rests on this shoe, and in one of the tests it was found that the machine could even be steered fairly well. The cost of the device ranges from \$9 to \$18 and it can be applied in a few moments.

All service ranks the same with God; there is no last nor first.—Browning.

DIDJA GO TO THE RUMMAGE SALE THE CHARITY SOCIETY HAD AT CABBAGETOWN?



WELL YOU MISSED IT! YOU KNOW THEY TOLD US ALL TO BRING SOMETHING WE HAD NO USE FOR, BUT WAS TOO GOOD TO THROW AWAY...



AN' WHAT DO YOU SUPPOSE MRS. COTTONTAIL BROUGHT?



I DON'T KNOW WHAT?

