

The AUTOMOBILE

Cutting Down Fuel Requirements.
The recent reductions in the price of motor fuels are no excuse for carelessness in the utilization of such fuels. The desirability and necessity of maintaining good fuel economy is just as great as ever.

Among the important things affecting fuel economy may be mentioned proper adjustment of the carburetor. All the carbureting accessories such as air meters, fuel vaporizers, etc., should be in first class working order. The carburetor jets should be clean and all fuel passages must be clear and free of leaks. Leakage of air through faulty gaskets, badly fitted valves or other places, sometimes causes faults in operation which are improperly ascribed to the carburetor.

Using the choke excessively is also productive of much trouble in causing carbon deposits and in clogging mufflers. This results in a sluggish engine, reduction of power, and, consequently, more fuel. A vicious cycle is thus established.

Valves should be carefully fitted and properly timed. Factory timing is rarely incorrect and when any repairs are made, or any overhauling of the motor is done, care should be taken to check the time accurately. The cooling system has some effect on fuel consumption. Generally speaking, the hotter an engine runs the less fuel will be used, but this has some exceptions. Cool operation results in fuel condensation in the combustion chamber and consequently carbon formation.

Adequate lubrication is also essential. Bearings that are too tight absorb power and it takes fuel to produce power.

Practical Paragraphs.

Relieving seized piston.—A seized piston is usually considered a pretty serious matter, but it is not necessarily so. It is sometimes possible to remedy this trouble if it is not the worst type of a case. Try this. Open the compression cocks or take out the spark plugs and pour in a liberal dose of kerosene. Let this stay in for fifteen minutes or so and give it a

chance to soak in thoroughly. Try to turn over the engine. If the kerosene has not loosened things up so that you can turn it over put the car into low gear, with the clutch left in, and get as many people as possible to help push the car. Generally this will have the desired effect and the pistons will begin to move again.

Cleaning sight feed glasses.—An excellent way of cleaning the glasses of sight feed lubricators without dismounting is to take a red hot poker and hold it near the glasses. This will melt the solidified oil on the glasses and permit the oil drip to be seen again. Another way is to have a piece of twisted wire connected on the end of the drip nozzle inside the glass of the lubricator. The oil runs slowly down the spiral path and is prevented from splashing over the glass and obscuring the view.

Rapid fire grease gun.—Here is a method of putting lubricant into the rear axle in double quick time. Put a common funnel in the filler hole of the axle. Remove the cap and nozzle from the end of the grease gun, opening the whole front end of the gun. Put the end of the grease gun in the wide end of the funnel and hold it firmly while screwing up the handle in the ordinary way. The grease will shoot into the axle in jig time, and a rinsing with kerosene and wiping with a bit of waste will remove all traces of the operation from the funnel.

Creeping rims.—When the shoulders on the wheel designed to hold the demountable rim become worn the rim and its tire will creep on the wheel. Naturally this makes the valve stem project at an acute angle and if continued long enough may cut it off. If the valve stem is held firmly by means of a cap the strain falls upon the lower portion of the stem and that part of the inner tube which surrounds it. In this connection it is well to call attention to the need for tightening the rim lugs by degrees. If they are fully tightened one after the other and all the way around the wheel there is apt to be too much space on one side of the wheel and too little on the other. The proper way is to tighten one lug and then the one nearly opposite it and so on.

THE WORLD IN THE MELTING POT

PROTECT MANKIND FROM HORRORS.

Advice and Warning by Sir Leo Chiozza Money, Famous Expert on Economics.

Addressing the officers of the United States Army War College, President Harding said the hope of entirely abolishing wars was "perfectly futile." Armies and navies would probably always be necessary.

There had never been so much killing done in the world before as occurred between August, 1914, and November, 1918. Already we see references to the "next war," but it is difficult to believe that those who utter the words realize what a "next war" of the great nations would mean to the world.

Deadly Weapons of War.
If two things are realized as certainties of a "next war," it will never occur if they are not realized, the world may rush unthinkingly to its doom.

The first of these things is that the war of the future will be fought by the engineer and the chemist, armed with weapons beside which those we knew, even in 1918, are toys.

The second is that a "next war" will not be fought by combatant forces raised either voluntarily or by conscription. It will be a war to the death between peoples, in which old and young, men, women, and children, the strong and the weak, will be involved in a common holocaust.

As the late war progressed, it became increasingly horrible. Its early period knew nothing of flame projectors, or of poison gas; of tanks or of merciless attacks without warning upon seamen; of squadrons of aeroplanes bombing the sleeping inhabitants of a great city.

To read an account of the sufferings inflicted upon soldiers by poison gas as used in the closing stages of the war is to be nauseated. Never before in the world's history—not even in the annals of savagery—were more sickening tortures inflicted upon man by man.

To the mercilessness of ancient days was added the knowledge of the scientist. Where the barbarian slew his hundreds, the modern soldier, armed with the weapons of science, slew his tens of thousands, and where he did not slay he often ruined men for life. Europe is producing less per man than before the war for many reasons, but not the least of those reasons is that in every country there are men who will never again be able to do a decent day's work—whose bodies are so debilitated they never recover from their war experiences.

The next war, if the folly of man allows it to happen, will be a struggle between hosts armed with such machines and explosives, and such death-dealing chemicals, as will destroy the hope of mankind for generations, if not for ever. We shall begin at the dreadful point at which the last war ended.

Poison gas and liquid fire will be developed into weapons capable of destroying ten or twenty times as many men as died on the battlefields of Europe between 1914 and 1918. And in all probability new and more deadly weapons will be forged.

New Mystery Power.
The world of science is on the verge of a great discovery—how to utilize the potent forces which are locked in the atoms of which matter is composed. The discovery of radium has revealed to us the possibility of the transmutation of the elements, and, in their transmutation, the setting free of such gigantic powers as have never before been wielded by man. If ever such forces become usable, they will be used in war, and in such a manner as to make it possible to destroy an army corps at a stroke.

Now let us come to the second point, which is that wars of the future will be fought by helpless non-combatants as well as by fighting forces.

Although the late war began only five years after the English Channel had been flown for the first time by an aeroplane, as many as 1,413 persons were killed and 3,407 people wounded in the United Kingdom by German airmen before the conflict ended. Most of these victims were non-combatants, many of them women and children. The next war in the air necessarily means war upon non-combatants.

As soon as war is declared swarms of aeroplanes will fly to the enemy's capital and other great centres of population. They will have bombs at their disposal infinitely more effective than those used by the Germans upon London. The air bombs of 1918 were elementary essays in the foul art of murdering from the air.

Shelters for Millions.
It is idle to suppose that the "next war" will be a thing confined to specific armies, navies, and air fleets. It will have to be endured by all. The victims probably will be more largely non-combatants than combatants. Either that, or a nation must construct perfect underground shelters for the whole of its population, which is obviously impossible.

Those, therefore, who talk of a "next war" are talking of war upon civilization. They are persons either without imagination or without conscience. We must protect the world from the horrors which threaten it.

Bill's Vocabulary.

"Say, pa," Harry demanded, "what part of the body is the vocabulary?"
"Why, Harry?"
"Oh, teacher said Bill Smith had a large vocabulary for his age."

—and the worst is yet to come



THE CRUISE OF THE GALLANT "QUEST"

SIR ERNEST SHACKLETON SOUTHBOUND.

With a Crew of Heroes to Sweep Unknown Seas and Probe Hidden Secrets.

The other day a trim little steamship, half-schooner, half-yacht, with a white crew's nest above the foremast spars, sailed proudly down the Thames and out to sea.

She looked not much bigger than a tug-boat, but her bows were sheathed with steel, and her sides had a thick overcoating of the toughest timber. On the bridge, as she dropped down the river, stood Sir Ernest Shackleton, waving his farewells to ship and shore—for this was the Quest—outward bound on his fourth expedition to the Antarctic, and on a voyage that may prove one of the most thrilling and romantic in the long story of British exploration.

A Man of Nerve.
If all goes well, by the time the Quest drops anchor again in the Channel of Old England she will have circumnavigated the South Polar Continent, visited many of the "lost islands" that stud these turbulent seas, and mapped in some three thousand miles of all but unknown coastline in the Antarctic region.

It requires a man of Shackleton's nerve and daring to plan and lead so hazardous a venture. But all through his career, Sir Ernest has gone for the big thing. He served his Antarctic apprenticeship twenty years ago with Captain Scott, and was with him and Dr. Wilson on the sledge journey of 1902, which paved the way to the conquest of the South Pole. That glittering prize all but fell to him seven years later, when he scaled the Beardmore Glacier to the lofty plateau that holds the Pole and was compelled by sheer exhaustion to retreat when only a hundred miles from success.

The Mysterious South.
More daring still was the plan of his third expedition, for, had he succeeded he would have marched across the southern continent from shore to shore, and settled once and for all many of the problems of the still mysterious South.

Ill-fortune dogged him again, but the splendid failure of the Endurance expedition is illumined by the unquenchable spirit he displayed in the drift down the ice-floes of Weddell Sea, and his heroic voyage of eight hundred miles in a small boat through the wildest seas in the world in search of relief for the party left behind on Elephant Island.

A man capable of deeds like these takes rank with the greatest of English sailors and pioneers. And with all that wealth of experience behind him, who will say that his latest and perhaps his last Antarctic venture—for he is approaching fifty—may not be crowned by a glorious triumph?

And what of the men who are with him? Of the ship's company of sailors

and scientists five at least are men who know the Antarctic of old.

A Sturdy Crew.

There is the second-in-command, the bold Frank Wild, with his unequalled record in the Far South, who was with Captain Scott in the Discovery, with Shackleton, when he first failed to reach the Pole, with Mawson in the great Australian expedition, and again with Shackleton in the Endurance.

To know Frank Wild is to love him. Small but sturdy, he is a man of iron nerve and infinite resource, an endless stock of cheerfulness, indomitable, tireless, brave as a lion—the man to have beside one in a tight corner. Frank is the life and soul of any company in which he finds himself. A robust vocalist, he can sing sea chanteys by the yard, and spin yarns when everyone else has told his best and last.

Shackleton has with him others who have been his companions on earlier ventures. Commander Frank Worsley, D.S.O., the navigating officer of the Quest, served as captain of the Endurance, and came through all the trials and tribulations that beset the doomed ship before she foundered in the ice of Weddell Sea.

Major Macklin was surgeon and biologist in the Endurance, and Captain Hussey the meteorologist; and Green, the cook of the same expedition, is going out again to keep the mess table of the Quest abundantly supplied with seal-pie and limpet soup, should other dainties begin to run short.

To the two lucky Boy Scouts who were chosen as cabin-boys one may offer congratulations on the great chance that has come their way of seeing the distant isles of the Southern Seas and the wonderland of magnificent desolation.

The Quest has therefore a happy company as she rolls her way down south. Life on board will not be quite that of an ocean liner. The little ship—she is only 111 feet long and 23 feet beam—is so packed full of stores and equipment—an aeroplane that may do great things in fine weather, up-to-date apparatus for sounding the ocean depths to 30,000 feet, dredging appliances, scientific instruments, and so on—that personal comfort must be a secondary consideration.

Every Man a Sportsman.

But explorers do not expect state-rooms and velvet cushions, and when the men of the Quest have settled down to their quarters they should have a much better time than many a good old salt in days of yore.

One feature of life on board the ship is worth noting. There will be no distinction of class or rank. Officers, scientists, seamen, and cabin-boys will take their meals together in the one mess-room, which is closely lined with sleeping quarters. It is a democratic arrangement unknown on the regular trader or in any navy; but on a vessel where good-fellowship and sportsmanship count for so much in the success that all are striving for, it means a very great deal that the whole party, from the leader downwards, should know each other and be on the best possible terms.

One can picture the scene in that little saloon, with its skylights and swinging lamp, when Shackleton presides at the Christmas dinner to all hands, while outside, in the perpetual

It Is the Harvest Moon!

It is the Harvest Moon! On gilded vanes
And roofs of villages, on woodland crests
And their aerial neighborhoods of nests
Deserted, on the curtained window panes
Of rooms where children sleep, on country lanes
And harvest fields, its mystic splendor rests!
Gone are the birds that were our summer guests;
With the last sheaves return the laboring wains!
The songbirds leave us at the summer's close,
Only the empty nests are left behind,
And pipings of the quail among the sheaves.
—Longfellow.

Mother is The Only One

After all is said and done,
Mother is the only one.—
The only one in all th' land
To give a chap a helpin' hand,
To cheer him in the daily work
That he's a-dyin' just t' shirk;
Who says, whenever things go wrong,
"Keep up, boy, 't will be done 'fore long."

Sometimes, when crops refuse to grow,
No matter how I hoe 'n hoe;
'N plow, 'n rake, 'n sow, 'n weed,
Jest so's th' stock ken hev some feed,
Well, pa comes roun' an' says, "Say, Si,

I reck' thet crop's 'bout t' die."
An' brother Jim, who's cuffed,
Says, "Really, has the fodder died?"
An' Sue, who reads them romance things,
Says, "Back to earth what old earth brings."

And then she hol's her hands 'n looks
Jes like the gals in novel books.
But ma! Ah, mother comes along
Softly hummin' an' ol' sweet song.
I drop th' hoe, I mop my brow,—
Ain't got no use for sunshine, now,—
An' life is filled with sudden bliss,
Fer ma has asked me for a kiss,—
An' after that,—well I jest swear
I wouldn't change with a millionaire!

Some time ago, when Higgins' gal
Was lookin' fer a lifetime pal,
An' when I went to church, why she
Wuz there, too, an' she winked at me.
An' at one meetin', by her side,
I says, "Liz, will yer be my bride?"
'Fore I had time to make a guess,
She squeezed my hand an' whispered,
"Yes."

We talked 'bout flowers an' weddi' rings,
'N cottage love, 'n all them things,
'N how we'd live on honey drops
On a farm that didn't need no crops,—
But,—something 'neath my Sunday vest
Told me that I loved Mether best.

But mother's gettin' old and gray:
Some day she'll be laid away
Down in th' field by th' old mill stream,
Where the roses love to dream.

And when thet happens, like 'ez not,
The old farm'll jest 'bot' go to pot.
We'd lose all hope, ef ma was gone,
Fer she most runs the farm alone.
Up with th' sparrers every morn,
Callin' the chickens to their corn;
She cooks a meal I wouldn't trade
Fer the finest farmhouse ever made;
She cleans th' house an' sets the hen,
An' shoos the pigs back to their pen;
She feeds the cow, an' then she goes
Inter th' house, an' sews, an' sews,
An' bakes a cake, an' runs th' churn,
An' gathers in th' wood t' burn;
An' ef you say, "Ma, rest a while!"
She'll answer, with her old sweet smile,
"Child, I ain't tired a bit. Are you?
We can't rest when there's work to do."

An', supper o'er, the chores all done,
She hears our lessons, one by one,
An' then she sees th' cat is fed,
An' puts the children all t' bed,
An' when th' family's tucked away,
Then she, alone, kneels down to pray.

After all is said and done,
Mother is the only one.

The Diamonds in Your Ring.

There is a tremendous amount of detailed work in setting precious stones. After an apprenticeship of six years a setter has still a long period of training to undergo before he can attain the experience of a first-class craftsman. Concentration and meticulous care are essential.

Very often impaired eyesight is the fate of the diamond-setter, unless he is careful to obtain a good light. This can be readily understood when we learn that a single ring contains sometimes as many as two hundred small stones, each hardly bigger than a pin's head.

Specially shaped holes have to be cut, and the adjustment of a stone in its setting is a fine art in itself. The hole is so cut that the stone is slipped in with a little pressure, and in such a way that it cannot possibly fall out. In old-fashioned rings silver takes the place of the more modern platinum, which is used in the better grades of rings. Silver has the disadvantage of tarnishing and softness, and will not stand the necessary heat of soldering so well.

People are often confused about diamonds, rose diamonds, and brilliants. They are all three "diamonds," but a rose diamond has a flat bottom, with only the upper half cut and polished. A brilliant is a completely cut stone. Rose diamonds are not as valuable as brilliants.

A diamond-setter's workshop comes in for a good deal of spring-cleaning. The floor is regularly swept, and the dust burnt in a special furnace. From the residue is recovered a valuable deposit of gold and platinum dust. This residue is called "jemel," and gives a handsome return when sold.

The setter must also wash his hands before leaving the workshop, for gold-dust has a trick of creeping into the pores of the skin and beneath the finger-nails.

The water is drained off into a tank fitted with an outlet tap halfway down the side. The jemel sinks to the bottom, and once a month is collected and melted down into a very substantial ingot.

We're All Lopsided

There is scarcely a man or woman who has not one shoulder a little lower than the other. The low shoulder is generally the right, for the droop is caused by using one hand and arm more than the other. Usually the muscles of the right side of the body are better developed than those of the left; but, curiously enough, the left foot is often larger than the right.

As a rule, the right eye is better than the left, whilst if we wish to catch an indistinct sound, it is always the right ear that we turn towards it. This neglect of the left side has made it less robust than the right. Diseases which affect the ears, eyes, nose, or legs occur far more frequently on the weak left side than on the more developed right.

Origin of Influenza.

The word "influenza" appeared first in mediæval Latin under the form influenza. It was used to denote the manner in which stars and planets were supposed to exert a guiding direction over the affairs of men.

Little by little the original meaning of the word was lost in a more general application of the term, until it reached its final significance of a power exerted from the outside—a power ranging from "influence at court" to the "influence of liquor."

It is from the astronomical application, however, that we secure the word "influenza"—the Italian name for a malady caused either by malignant planetary influence or atmospheric conditions which were none too well understood even by the men of medicine who gave the disease its name.

daylight of the Polar summer, lie the glistering ice-fields and the massive tabular icebergs that make the wondrous scenery of the Far South.

Into the Unknown.

The Quest has a splendid mission. It is a mission that recalls the great voyages of the early pioneers, full of peril and uncertainty, but with that inexpressible magnetism that comes of the danger accompanying the penetration of the unknown. Who knows what stories of heroism she may bring back, what news of lands seen for the first time by the eyes of men, what tales of the misty, ice-clad islets of the Southern Seas, the only remaining relics of an earlier world?

Trade and commerce may gain little or nothing from the labors of Shackleton and his comrades, but we shall know a great deal more of the earth's history when the results of their work have been translated into terms of modern science.

Village That Floats.

In the interior of French Indo-China there is a village whose location is a source of worry to captains of passing steamers. They are never certain where they will find it.

Its name is Snok-Trou, and its location is somewhere on the Mekong River. The village consists of forty or fifty little huts built on rafts and lashed together with rattan ropes. Here dwell about two hundred people, whose chief occupation is fishing.

The rear of the village is lashed to half-submerged trees, but the whole town changes its position from time to time, according to the vagaries of the river or the whims of its inhabitants. Steamboats passing up the river will find it at one spot, and on the return journey discover that it has moved elsewhere.

First Post.

Most people regard the post as a modern institution; yet this is not so, for regular postal services have existed for more than two thousand years.

One of the earliest systems for the delivery of letters was established by Persia more than five centuries before the Christian era.

In those days letters were not written on paper. They took the form of short sticks, on which a message was inscribed either by means of paints, or by burning it on with a kind of primitive poker-work outfit. These letters were delivered by regular relays of postmen over thousands of miles of country.

Even the telegraph was in use in a crude form. Messages could be sent in an hour or two over distances of hundreds of miles by means of a system of shuttles, who passed them on from one to the other.

Growing Fuel on the Prairies.

As a general rule the prairie settler requires first a shelter-belt or wind-break around his buildings. The establishment of a plantation to produce fuel and fencing material is either of secondary consideration or is not given a moment's thought, the popular idea being that it takes trees too long to grow, and that it is not much use doing work the benefits of which will be reaped by some one else. This, however, is a mistake, as has been clearly shown by actual plantations set out on the western experimental farms, on the Dominion Forestry Branch Nursery Station at Indian Head and by private individuals scattered throughout the West.

Order is a lovely nymph, the child of Beauty and Wisdom; her attendants are Comfort, Neatness, and Activity; her abode is the valley of happiness; she is always to be found when sought for, and never appears so lovely as when contrasted with her opponent, Disorder.—Johnson.